SEQUENCE LISTING

<110> EXPRESSION DIAGNOSTICS, INC.
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       Fry, Kirk
       Woodward, Robert
       Ly, Ngoc

<120> METHODS AND COMPOSITIONS FOR DIAGNOSING AND MONITORING
       AUTO IMMUNE AND CHRONIC INFLAMMATORY DISEASES

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<151> 2002-04-24

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tcactttaca tgggagttat ccattgatga cgatgaaatg cctgatttag aaaacagagt     180

cttggatcag attgaattcc tagacaccaa atacagtgtg ggaatacaca acctactagc     240

ctatgtgaaa cacctgaaag gccagaatga ggaagccctg aagagcttaa aagaagctga     300

aaacttaatg caggaagaac atgacaacca agcaaatgtg aggagtctgg tgacctgggg     360

caactttgcc tggatgtatt accacatggg cagactggca gaagcccaga cttacctgga     420

caaggtggag aacatttgca agaagctttc aaatcccttc cgctatagaa tggagtgtcc     480

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ggccaaggcc tgctttgaaa aggtgcttga agtggaccct gaaaaccctg aatccagcgc     600

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cattgaagaa gctctagcca acatgtcctc acagacctat gtctttcgat atgcagccaa     840

gttttaccga agaaaaggct ctgtggataa agctcttgag ttattaaaaa aggccttgca     900

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caaaatgata agatcagcca tatttcattt tgaatctgca gtggaaaaaa agcccacatt    1080

tgaggtggct catctagacc tggcaagaat gtatatagaa gcaggcaatc acagaaaagc    1140

tgaagagaat tttcaaaaat tgttatgcat gaaaccagtg gtagaagaaa caatgcaaga    1200

catacatttc tactatggtc ggtttcagga atttcaaaag aaatctgacg tcaatgcaat    1260

tatccattat ttaaaagcta taaaaataga acaggcatca ttaacaaggg ataaaagtat    1320

caattctttg aagaaattgg ttttaaggaa acttcggaga aaggcattag atctggaaag    1380

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9

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ctatgagcgg gccctgagac tggctgctga ctttgagaac tctgtgagac aaggtcctta    1500

ggcacccaga tatcagccac tttcacattt catttcattt tatgctaaca tttactaatc    1560

atcttttctg cttactgttt tcagaaacat tataattcac tgtaatgatg taattcttga    1620

ataataaatc tgacaaaata tt                                              1642
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<212>  DNA
<213>  Homo sapiens

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ccggcatgtg caaggccggc ttcgcgggcg acgatccccc cggccgtc ttccctcca       180

tcgtggggcg ccccaggcac cagggcgtga tggtgggcat gggtcagaag gattcctatg     240

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ccaaccgcga gaagatgacc cagatcatgt ttgagacctt caacacccca gccatgtacg     480

ttgctatcca ggctgtgcta tccctgtacg cctctggccg taccactggc atcgtgatgg     540

actccggtga cgggggtcacc cacactgtgc ccatctacga ggggtatgcc ctcccccatg     600

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ccgagcgcgg ctacagcttc accaccacgg ccgagcggga aatcgtgcgt gacattaagg     720

agaagctgtg ctacgtcgcc ctggacttcg agcaagagat ggccacggct gcttccagct     780

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cggttggagc gagcatcccc caaagttcac aatgtggccg aggactttga ttgcacattg   1440

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cctaaaagcc accccacttc tctctaagga gaatggccca gtcctctccc aagtccacac   1560

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gccttaatac tttttatttt tgttttattt tgaatgatga gccttcgtgc ccccccttcc   1680

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<210>   8
<211>   1962
<212>   DNA
<213>   Homo sapiens

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ccatggaaga ggctcttttt cagcacttca tgcaccagaa gctggggatc gcctatgcca   180

tacacaagcc atttcccttc tttgaaggcc tcctagacaa ctccatcatc actaagagaa   240

tgtacatgga atctctggaa gcctgtagaa atttgatccc tgtatccaga gtggtgcaca   300

acattctcac ccaactggag aggactttta acctgtctct tctggtgaca ttgttcagtc   360

aaattaacct gcgtgaatat cccaatctgg tgacgattta cagaagcttc aaacgtgttg   420

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tagcagaagg aagctccctc catacccccac tggcgctgcc cccaccacaa ccccctcaac   540

caagctgttc accctgtgcg ccaagagtca gtgagcctgg aacatcctcc cagcaaagcg   600

atgagatcct gagtgagtcg cccagcccat ctgaccctgt cctgcctctc cctgcactca   660

tccaggaagg aagaagcact tcagtgacca atgacaagtt aacatccaaa atgaatgcgg   720

aagaagactc agaagagatg cccagcctcc tcactagcac tgtgcaagtg gccagtgaca   780

acctgatccc ccaaataaga gataaagaag accctcaaga gatgccccac tctcccttgg   840

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aggtgtccag cacaccttca gacaagaaag gaaagaaaag aaaaagatgt atctggtcaa   960

ctccaaaaag gagacataag aaaaaaagcc tcccaagagg gacagcctca tctagacacg   1020

gaatccaaaa gaagctcaaa agggtggatc aggttcctca aaagaaagat gactcaactt   1080

gtaactccac ggtagagaca agggcccaaa aggcgagaac tgaatgtgcc cgaaagtcga   1140

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aggtcatgat gagggtccaa aaggcaagaa ctaaatgtgc ccgaaagtcc agatcgaaag    1380

aaaagaaaaa ggagaaagat atctgttcaa gctcaaaaag gagatttcag aaaaatattc    1440

accgaagagg aaaacccaaa agtgacactg tggattttca ctgttctaag ctccccgtga    1500

cctgtggtga ggcgaaaggg attttatata agaagaaaat gaaacacgga tcctcagtga    1560

agtgcattcg gaatgaggat ggaacttggt aacaccaaa tgaatttgaa gtcgaaggaa    1620

aaggaaggaa cgcaaagaac tggaaacgga atatacgttg tgaaggaatg accctaggag    1680

agctgctgaa gagtggactt ttgctctgtc ctccaagaat aaatctcaag agagagttaa    1740

atagcaagtg aatttctact accctctcag tcaccatgtt gcagactttc cctgtctgga    1800

ggctcacctt agagcttctg agtttccaag ctctgagtca cctccacatt tgggcatggc    1860

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taaaaattaa atgaaaaagc tcaaaaaaaa aaaaaaaaa aa                        1962
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<210> 9
<211> 732
<212> DNA
<213> Homo sapiens

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ccagatgggg tccagcgggg tcttgtggga gagattatca agcgttttga gcagaaagga    180

ttccgccttg ttggtctgaa attcatgcaa gcttccgaag atcttctcaa ggaacactac    240

gttgacctga aggaccgtcc attctttgcc ggcctggtga aatacatgca ctcagggccg    300

gtagttgcca tggtctggga ggggctgaat gtggtgaaga cgggccgagt catgctcggg    360

gagaccaacc ctgcagactc caagcctggg accatccgtg agacttctg catacaagtt    420

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12

<210> 10
<211> 1759
<212> DNA
<213> Homo sapiens

<400> 10

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agaggaaagc gactcaagtt ccgggcccac.gacgcctgct ccggccgagt gaccgtggcg       180

gattacgcca actcggatcc ggcggtcgtg aggtctggac gagtcaagaa agccgtagcc       240

aacgctgttc agcaggaagt aaaatctctt tgtggcttgg aagcctctca ggttcctgca       300

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gatgcccagg aggaaagcat ccatgagaga actgtctcca gaaaaaagaa aagcaagaga       420

cacaaagaag aactggacgg ggctggagga gaagagtatc ccatggatat ttggctattg       480

ctggcctcct atatccgtcc tgaggacatt gtgaattttt ccctgatttg taagaatgcc       540

tggactgtca cttgcactgc tgccttttgg accaggttgt accgaaggca ctacacgctg       600

gatgcttccc tgcctttgcg tctgcgacca gagtcaatgg agaagctgcg ctgtctccgg       660

gcttgtgtga tccgatctct gtaccatatg tatgagccat ttgctgctcg aatctccaag       720

aatccagcca ttccagaaag cacccccagc acattaaaga attccaaatg cttacttttc       780

tggtgcagaa agattgttgg gaacagacag gaaccaatgt gggaattcaa cttcaagttc       840

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13

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agtgaatatt ttcccttctc cctttaccct tctccagaaa taaagcaggt gacagggttt    1680

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aaaaaaaaaa aaaaaaaaa                                                 1759
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<211> 3280
<212> DNA
<213> Homo sapiens

<400> 11
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ctcaacggct gactcggcag cgggcagcca ccccacgctc ccctgcggtc actcgcacac     180

cacagcctga agctccccca gcgcctgcac ctcgcacaca gctaaggtca aagttcaaac     240

gcactccaca cggaagctca ttctataccc gaagagcagt ctcagaaagc aagattactt     300

ttgtgttttt taaaaaatga ttctttaatg tattttttcta aacattctga ttggaagtag     360

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tttgaatgcc attcactaga cctctcaagc attttgtttc attgctacat ccaagcgcct     720

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tcaaagcttg aggtagaccg agtcagcatg ctagacaggc ttctctctct aaccaaaact    1140

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agtgtaaact aggtaggatt gtgatgctca aaataaccat ctagcaatat cttggagctt    2100

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caagatcata gagaatggtg ctttttacta cagttagcac atgcattttt agaaactact    3180

acatgtttta gagaatcttt gctgtgtata tgtaaactgt attgttcaac tgttaacaaa    3240

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15

<210>   12
<211>   1750
<212>   DNA
<213>   Homo sapiens

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gggttgaact ttcaggatct caagaaccag ctgaaacaca tgtctgtatc ctcaatcaag   1020

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ttgcactttc ctgcttgtca tgactttttg acacacttgc catgacgtgt gtttctgtga   1620

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acatgaagtt ctgcggtagt gcctccaggg gcagaggaaa agaagaagtg ttactgcgtt     1680

ttgtacaaaa taaatacagt catatgttta ataaaacagt tctattgtaa aaaaaaaaa     1740

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aaaaaaaaa
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<210>   13
<211>   1925
<212>   DNA
<213>   Homo sapiens

<400>   13
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ctgatgagag cctgaggagc cattttgagc aatggggaac gctcacggac tgtgtggtaa      240

tgagagatcc aaacaccaag cgctctaggg gctttgggtt tgtcacatat gccactgtgg      300

aggaggtgga tgcagctatg aatgcaaggc cacacaaggt ggatggaaga gttgtggaac      360

caaagagagc tgtctccaga gaagattctc aaagaccagg tgcccactta actgtgaaaa      420

agatatttgt tggtggcatt aaagaagaca ctgaagaaca tcacctaaga gattattttg      480

aacagtatgg aaaaattgaa gtgattgaaa tcatgactga ccgaggcagt ggcaagaaaa      540

ggggctttgc ctttgtaacc tttgacgacc atgactccgt ggataagatt gtcattcaga      600

aataccatac tgtgaatggc cacaactgtg aagttagaaa agccctgtca aagcaagaga      660

tggctagtgc ttcatccagc caaagaggtc gaagtggttc tggaaacttt ggtggtggtc      720

gtggaggtgg tttcggtggg aatgacaact tcggtcgtgg aggaaacttc agtggtcgtg      780

gtggctttgg tggcagccgt ggtggtggtg gatatggtgg cagtggggat ggctataatg      840

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gctatggaag tggtggacag ggttatggaa accagggcag tggctatggc gggagtggca      960

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gacccatgaa gggaggaaat tttggaggca gaagctctgg cccctatggc ggtggaggcc     1140

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atggcagtgg cagaagattt taattaggaa acaaagctta gcaggagagg agagccagag     1260

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ggtggagaag ccattgtctt cggaaacctt ggtgtagttg aactgatagt tactgttgtg    1740

acctgaagtt caccattaaa agggattacc caagcaaaat catggaatgg ttataaagt     1800

gattgttggc acatcctatg caatatatct aaattgaata atggtaccag ataaaattat    1860

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<212> DNA
<213> Homo sapiens

<400> 14
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ccaacttgcg caaaaacaac agacagccct atgctgtcag tgaattagca ggtcatcaga    240

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gtgggactca ccgctctggc cagggtgctt ttggaaacat gtgtcgtgga ggccgaatgt    360

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cagctaccaa gaaaccagcc cctgaaaaga agcctgcaga gaagaaacct actacagagg   1320

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<210>   15
<211>   2754
<212>   DNA
<213>   Homo sapiens

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cgagaaatcc tccaagattt gcctttgtgg aattcgaaga tcctagagat gcagaagatg   240

cagtacgagg actggatgga aaggtgattt gtggctcccg agtgagggtt gaactatcga   300

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gccggcgaag aagaagcagg tttcttcgtt tgagtcagtc gccttgattc agaatgtcac   480

gagccttatg atatcatgct gaggcgcctt gcaaatccga caattaagat cctcctagac   540

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aattggggcc ccctccggt ttagaaagag gaacaccaga ttgaccacat tcccaactag   720

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gtcgaggtca agatcaagat ccaggtctat ttcacgacca agaagcagcc gatcaaagtc   1140

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tattgcaact tgggaatact ggtctgcatc aagtttattc ggtagtttga ccgctagtat    2580

gttggaagtt atttggattg tttttggaat tttgactggc tgaattatgg ttggtataaa    2640

gttatgtgta taactggcag gcttatttat ctgttgcact ggttagctt taattgttct    2700

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<210> 16
<211> 2911
<212> DNA
<213> Homo sapiens

<400> 16
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20

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cagatttcat cttcctaaac tggaaatgtc aatgagagga aattaacacc cccaagagct   300

gcagtgagca aatgcattga gcttgggtca ggacaattcc atttggggac cagagatgga   360

cggtcactca gcctatggag atgaagaaac tgaggttcag agaggttaag agactccact   420

gaggtcacac agccgatgac agacaacctt ctgtgccttc atcaagctgg ttgtgtaccc   480

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acagttggag gaggacggca gagacagttt ccctccccgc tataccaaca cccttccttc   600

gaggtcctcg ctcctgaggg accctggact gtcacagaga ttaatgaccc cttatcttct   660

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gtggacttgt acggcttcgg ggcagacagc aaagggaact ggcaccacta ctgggagaac  1920
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gagccgttcc atcccggagc ttggaggggc agcctcaggt gtgtgcctgg gcaccgctca    2160

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<210> 17
<211> 428
<212> DNA
<213> Homo sapiens

<400> 17
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atggttcttg aagactgatg tcctttccca aacactggtt actgcagcag catttttaat    180

gtgtaagtga agaaaaaagg ccactaaggc caaagatttt ttaagaatca ttgtacaaat    240

cattatgtta aactatctaa gctttgctgt aatactgttt tctcttcaat atgtgatggt    300

acaggaagga tgttaaatga aggggtggta ttgcaggaga gcattttaaa tggcagaagt    360

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<210> 18
<211> 5243
<212> DNA

<213> Homo sapiens

<400> 18

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gcatatttaa attataagtc cacggatcaa aaagcttttt gatttcccaa aggagggaca     180
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41

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43

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47

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aagctatcct cacatcattc aggacaaatg tacccttcac tttttgaccc caggggtgaa    840

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gccagagtct ctacctcatc tcgtgaaaaa agctctcagg gttttgccca cagttacttg   2100

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gcctgtgaaa aactctcagg gattcacgtg gaaccagctc agaattacct ctaggatttt   2220

tcagtggaaa ggactcagta gaacagaaac cactgggagg agctcccagc ctaaggaatg   2280

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atttcctgga ctggactgac ggcgagtgaa ttctctagac cttgggtact ttcagtacac   2520

aacacccta agatttccca gtggtccgag cagaatcaga aaatacagct acttctgcct    2580

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<213>   Homo sapiens

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tgcaaatcaa gaggttccaa tcttcgtgtt cactttaaga acactcgtga aactgctcag   240

gccatcaagg gtatgcatat acgaaaagcc acgaagtatc tgaaagatgt cactttacag   300

aaacagtgtg taccattccg acgttacaat ggtggagttg gcaggtgtgc gcaggccaag   360

caatggggct ggacacaagg tcggtggccc aaaaagagtg ctgaattttt gctgcacatg   420

cttaaaaacg cagagagtaa tgctgaactt aagggtttag atgtagattc tctggtcatt   480

gagcatatcc aagtgaacaa agcacctaag atgcgccgcc ggacctacag agctcatggt   540

cggattaacc catacatgag ctctccctgc cacattgaga tgatccttac ggaaaaggaa   600

cagattgttc ctaaaccaga agaggaggtt gcccagaaga aaaagatatc ccagaagaaa   660

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<213>   Homo sapiens


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<220>
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cctcccagca agtttcacct tgggtttgta ttttaaatgt tttacaagaa ttgtccatgt     360

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atacacaaca tttatttcaa actaattggg agggatgaga gtggcttaaa aacttcccac     480

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<213>  Homo sapiens

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gccatttgtg ggaaatattt cttcgtttca gattgttgat gttattgttg ggaaagacga    180

aaaaggcaga aagatcccag aatatctgat ccattttaat ggttggaaca gaagctggga    240

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taaattggca agaaaagctg tagctcgcct gaggagcaca ggaagaaaga gaagcgctg     360

caggttgcct ggtgtggact ctgtcttaaa aggcctcccc actgaagaaa aagatgaaaa    420

tgatgaaaac tcattaagca gttcctctga ctgtagtgaa acaaggatg aagaaataag     480

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aagggaaatg gaagaaagaa caataactat agaaatccct gaagttctga agaagcagct    600

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caacatcata acgattttgg aatcctatgt gaagcatttt gctatcaatg cagccttttc    720

agccaatgag aggcctcgtc accatcacgt tatgccacat gccaacatga acgtgcatta    780

tatcccagca gaaaagaatg ttgacctttg taaggagatg gtggatggat taagaataac    840

ctttgattac actctcccgt tggttttact ctatccatat gaacaagctc agtataaaaa    900
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gagtcagccg accaccggtg aaccagccac ccccaaaagg cgcaaagctg agccagaagc  1080

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gcctccaccc tcttacattt atggggcaca acatttgctg cgattgtttg tgaaacttcc  1440

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gatctaaaga aagcattgcc tttcttattt gagattttac agctatactt tgttgtgtaa  2220

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<212> DNA
<213> Homo sapiens

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cccggccacc gctgcctcag cctctgcctc ccagcctctt tctgagggaa aggacaagat   180
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51

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gaagtggaag gcgctttca ccgcggccat cctgcaggca cagttgccga ttacagaggc     240

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ggagtacgat gttttggaca agagacgtgg ccgggaccct gagatggggg gaaagccgag     480

aaggaagaac cctcaggaag gcctgtacaa tgaactgcag aaagataaga tggcggaggc     540

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ccagggtctc agtacagcca ccaaggacac ctacgacgcc cttcacatgc aggccctgcc     660

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<212>   DNA
<213>   Homo sapiens

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ccaactgctt tcctttccct cagcacacag aggatgatgc tgactttgat gaagtccaat      300

atcagatgga aatgatgcgg agccttcgcc atgtaaacat tgatcatctt cacgtgggct      360

ggtatcagtc cacatactat ggctcattcg ttacccgggc actcctggac tctcagttta      420

gttaccagca tgccattgaa gaatctgtcg ttctcatttta tgatcccata aaaactgccc      480

aaggatctct ctcactaaag gcatacagac tgactcctaa actgatggaa gtttgtaaag      540

aaaaggattt ttcccctgaa gcattgaaaa aagcaaatat cacctttgag tacatgtttg      600

aagaagtgcc gattgtaatt aaaaattcac atctgatcaa tgtcctaatg tgggaacttg      660

aaaagaagtc agctgttgca gataaacatg aattgctcag ccttgccagc agcaatcatt      720

tggggaagaa tctacagttg ctgatggaca gagtggatga aatgagccaa gatatagtta      780

aatacaacac atacatgagg aatactagta acaacagca gcagaaacat cagtatcagc      840

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aggacctgtc caaactcttc aaaccaccac agccgcctgc caggatggac tcgctgctca      960

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gaaaagaagt taacatgaac tcttgaagtc acaccagggc aactcttgga agaaatatat     1140

ttgcatattg aaaagcacag aggatttctt tagtgtcatt gccgattttg gctataacag     1200

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aaaaaaaaaa aaaaaaaaaa                                                1280
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<213>  Homo sapiens

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ggaggatgtc ttcactggtg ggccccacgc aaagcttctt catgagggaa tctaagactt      300

tgggggctgt ccagattatg aatgggctct tccacattgc cctggggggt cttctgatga      360
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tggtcaaagg aaaaatgata atgaattcat tgagcctctt tgctgccatt tctggaatga    540

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cctctgagaa aaactcccca tctacccaat actgttacag catacaatct ctgttcttgg    720

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catcttccca accaaagaat gaagaagaca ttgaaattat tccaatccaa gaagaggaag    960

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<212>  DNA
<213>  Homo sapiens

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gaactggtat tgatttcact gaaaattttc cacaccacca ccattgtttt tttgaattct    180

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aagcagataa attgctaatg agcaataatg accttatctt taccaaaaca ctgaaaatta    300
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agcgttaaca tttttcctgt cgtgtagcag agagtacaag aatcatttca gcaaagcagt   480

gactcaccat gagacgttat ctccatggag ctgcgttttg acttttccca ctctcttact   540

catagaagga ggacaaagga acgaaatgaa atcatgctca caatgaactg ttcattacat   600

caactgatct ctctctctct ctcttcctct ctttctcttt ctcccatacc ccaaggcaaa   660

atttttttaa agaaatgact ttaaaaacta tcatttctgt attttaatta catctcttag   720

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ccagtgttat attttgcata acatatttgt aacagcataa aatattgttt gatgatttca  1680

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gaatcttctc aagcacagtt taatactttt gcaactactg aatgctctaa taacgtaatg  1860

aagtacttaa ctgtaatata ctatggaaat gcattcagat ggttatttt acaaataaaa  1920

acggtacaaa tattgtt                                              1937
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<210>  39
<211>  2647
<212>  DNA
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<213> Homo sapiens

<400> 39

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aacaaagaaa gagccaatta aattttttag tttttgaaat ttttatttat atgtatactt     180
agatgagtat tttaagctgt cgacctttag tttgccatac gggtaggact gtatttcatg     240
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aaaaaaa                                                               2647
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<213>  Homo sapiens

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aggaaccctg cggagggact tcaatcacat caatgtagaa ctcagccttc ttggaaagaa    180

aaaaaagagg ctccgggttg acaaatggtg gggtaacaga aaggaactgg ctaccgttcg    240

gactatttgt agtcatgtac agaacatgat caagggtgtt acactgggct ccgttacaa     300

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tgttgcttgt tcagtatctc aagcccagaa agatgaatta atccttgaag gaaatgacat    480

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tgaataagat ctaagagtta cctggctaca gaaagaagat gccagatgac acttaagacc    660
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57

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<210> 41
<211> 1197
<212> DNA
<213> Homo sapiens

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<211> 818
<212> DNA
<213> Homo sapiens

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tgccatcaca agcagatgtg gcagtatttg aagccgtgtc cagcccaccg cctgccgact    240

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gcttagtctg gggctcatct aaactagttc cagtgggata cggaattaag aaacttcaaa    660

tacagtgtgt agttgaagat gataaagttg aacagatat gctggaggag cagatcactg     720

cttttgagga ctatgtgcag tccatggatg tggctgcttt caacaagatc taaaatccat    780

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<211>  2489
<212>  DNA
<213>  Homo sapiens

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cccggtaagc gggcctgcgc ttaccggaaa gaggagcgta agatgaaaga gtatcagacc    180

aaacattgtc tggcttgcac tgtaaaacta gttagctgaa gacgacttct caggtttctt    240

caggatgcct gcagcacttg tggagaatag ccaggttatc tgtgaagtgt gggccagtaa    300

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aggactacag tttcagaagc atgaagagga agggattgac acactgcact ttgcagagct    660

gcttatgaca tcaggagtgg ttctctgtga caatgtcaaa tggctttcat ttcatagtgg    720

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tgaattctta catattctga accttttctc cccatccatt tatgatgtga ataacctgat    840

gaagagctgc aaaaatctta agggaggtct tcaggaagtt gctgatcagt tggatttgca    900

gaggattgga aggcagcacc aggcaggctc agactcactg ctgacaggaa tggctttctt    960
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<212>  DNA
<213>  Homo sapiens

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tcgttttctc tttgtcatta aggagaaaca ctttgatatt ctgatagagt ggccttcatt      240

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tgcatcatta tcctgaatta tttcagttaa gcatgttagt tggtggcata agagaaaact      360

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<212>   DNA
<213>   Homo sapiens
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ccaaagcagg accttgctta tgaacgtcag tatgaacagc aaacctatca ggtgatccct    180

gaggtgatca aaaacttcat ccagtatttc cacaaaactg tctcagattt gattgaccag    240

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gagtgccagg tcaccacata ctattatgtt gggtttgcat atttgatgat gcgtcgttac    1020

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<211> 921
<212> DNA
<213> Homo sapiens

<400> 46
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aaaaaaaaaa aaaaaaaaaa a                                              921
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<212>   DNA
<213>   Homo sapiens
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aaaaaaaaaa ctatcaaaga aagatgaaat aataaaacta ttatataaag ggtgacttac   1440

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64

taaaaaaaaa

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<211> 2828
<212> DNA
<213> Homo sapiens

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cagagtcggt cggggaaggc cacccagata agatttgtga ccaaatcagt gatgctgtcc   240

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ccaaactggc agaactacgc cgtaatggca ctttgccttg ttacgccct gattctaaaa   660

ctcaagttac tgtgcagtat atgcaggatc gaggtgctgt gcttcccatc agagtccaca   720

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tttcaggaaa ggattatacc aaggtcgacc gttcagctgc ttatgctgct cgttgggtgg   1020

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cgtaaagtac ttgtagttcc acttatagcc tctgtctggc aatgccacag ccctgtcagc      1740

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aaaatctctc cactttcagc tgtcttttgg aggacgtacg taataaggtt ttaatttagt      2040

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aaacaggcac ttggcagcct tgtgatgtca tacagagaag tcacagggca gtacctgagg      2160

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caggtccaat gagctttctg aacagctggt gtagctacag agaaaccagc ttccttcaga      2340

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tatttattgt attctggggt atggcgtaag tacagagaag ccatcacctc agatggcagc      2460

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ctaagcagaa agtgcctttc aggatctatt tttggaggtt tattacgtat gtctggttct      2760

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aaaaaaaa                                                              2828
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<211>   574
<212>   DNA
<213>   Homo sapiens

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catggatgct gccaattttg agcagttttt gcaagaaagg atcaaagtga cggaaaagc      180

tgggaacctt ggtggagggg tggtgaccat cgaaaggagc aagagcaaga tcaccgtgac      240

atccgaggtg cctttctcca aaaggtattt gaaatatctc accaaaaaat atttgaagaa      300
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gaataatcta cgtgactggt tgcgcgtagt tgctaacagc aaagagagtt acgaattacg      360

ttacttccag attaaccagg acgaagaaga ggaggaagac gaggattaaa tttcatttat      420

ctggaaaatt ttgtatgagt tcttgaataa aacttgggaa ccaaaatggt ggtttatcct      480

tgtatctctg cagtgtggat tgaacagaaa attggaaatc atagtcaaag ggcttccctt      540

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<211>   921
<212>   DNA
<213>   Homo sapiens

<400>   50
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aagaaagatt ggtatgatgt gaaagcacct gctatgttca atataagaaa tattggaaag      180

acgctcgtca ccaggaccca aggaaccaaa attgcatctg atggtctcaa gggtcgtgtg      240

tttgaagtga gtcttgctga tttgcagaat gatgaagttg catttagaaa attcaagctg      300

attactgaag atgttcaggg taaaaactgc ctgactaact tccatggcat ggatcttacc      360

cgtgacaaaa tgtgttccat ggtcaaaaaa tggcagacaa tgattgaagc tcacgttgat      420

gtcaagacta ccgatggtta cttgcttcgt ctgttctgtg ttggttttac taaaaaacgc      480

aacaatcaga tacggaagac ctcttatgct cagcaccaac aggtccgcca atccggaag       540

aagatgatgg aaatcatgac ccgagaggtg cagacaaatg acttgaaaga agtggtcaat      600

aaattgattc cagacagcat tggaaaagac atagaaagg cttgccaatc tatttatcct       660

ctccatgatg tcttcgttag aaaagtaaaa atgctgaaga gcccaagtt tgaattggga       720

aagctcatgg agcttcatgg tgaaggcagt agttctggaa aagccactgg ggacgagaca      780

ggtgctaaag ttgaacgagc tgatggatat gaaccaccag tccaagaatc tgtttaaagt      840

tcagacttca aatagtggca aataaaaagt gctatttgtg atggtttgct tctgaaaaaa      900

aaaaaaaaaa aaaaaaaaaa a                                               921
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<210>   51
<211>   2106
<212>   DNA
<213>   Homo sapiens

<400>   51
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tctgaatctg cggccaccac ccggtaaggc taaatactaa tcagacaccg atagtgaact      120

agtaccgtga gggaaaggtg aaaagaaccc gagaggggag tgaaatagat tctgaaacca      180
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tcaggtgatc tatccatgag caggttgaag cttaggtaaa actaagtgga ggaccgaacc    420

gtagtacgct aaaaagtgcc cggatggact tgtggatagt ggtgaaattc caatcgaacc    480

tggagatagc tggttctctt cgaaatagct ttagggctag cgtatagtat tgtttaatgg    540

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aataccatta aaattaagct atgcagtcgg aacgtggtat caccattgat atctccttgt    660

ggaaatttga gaccagcaag tactatgtga ctatcattga tgccccagga cacagagact    720

ttatccaaaa catgattaca gggacctctc aggctgactg tgctgtcctg attgttgctg    780

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ctgagccacc ctacagccag aagagatatg aggaaattgt taaggaagtc agcacttaca    960

ttaagaaaat tggctacaac cccgacacag tagcatttgt gccaatttct ggttggaatg    1020

gtgacaacat gctggagcca agtgctaaca tgccttggtt caagggatgg aaagtcaccc    1080

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aggatgttcg tcgtggcaac gttgctggtg acagcaaaaa tgacccacca atggaagcag    1440

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ctcagaaggc taaatgaata ttatccctaa tcctcccacc ccactcttaa tcagtggtgg    1860

aagaccggtc tcagaactgt ttgtttcaat tgccatttaa gtttagtagt aaaagactgg    1920

ttaatgataa caatgcatcg taaaaccttt cagaaggaaa ggagaatgtt ttgtggacac    1980
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gttggttttc ttttttgcgt gtggcagttt tagttattag tttttaaaat cagtactttt      2040

taatggaaac aacttgaccc ccaaatttgt cacagaattt tgggacccat taaaaggtta      2100

actggg                                                                 2106
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<211> 925
<212> DNA
<213> Homo sapiens

<400> 52
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atccggcgtc tgcactttac agaggtccaa tcacgcggac ccagaacccc atggtgaccg      180

ggacctcagt cctcggcgtt aagttcgagg cggagtggt gattgccgca gacatgctgg       240

gatcctacgg ctccttggct cgtttccgca acatctctcg cattatgcga gtcaacaaca      300

gtaccatgct gggtgcctct ggcgactacg ctgatttcca gtatttgaag caagttctcg      360

gccagatggt gattgatgag gagcttctgg gagatggaca cagctatagt cctagagcta      420

ttcattcatg gctgaccagg gccatgtaca gccggcgctc gaagatgaac cctttgtgga      480

acaccatggt catcggaggc tatgctgatg gagagagctt cctcggttat gtggacatgc      540

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ctctgctgcg agaagttctg gagaagcagc cagtgctaag ccagaccgag gcccgcgact      660

tagtagaacg ctgcatgcga gtgctgtact accgagatgc ccgttcttac aaccggtttc      720

aaatcgccac tgtcaccgaa aaaggtgttg aaatagaggg accattgtct acagagacca      780

actgggatat tgcccacatg atcagtggct ttgaatgaaa tacagatgca ttatccagaa      840

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<211> 1487
<212> DNA
<213> Homo sapiens

<400> 53
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gtggggttac acgcgggttc aacatgcgta tcgaaaagtg ttatttctgt tcggggccca      180

tctatcctgg acacggcatg atgttcgtcc gcaacgattg caaggtgttc agattttgca      240

aatctaaatg tcataaaaac tttaaaaaga agcgcaatcc tcgcaaagtt aggtggacca      300
```
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69

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aagcattccg gaaagcagct ggtaaagagc ttacagtgga taattcattt gaatttgaaa    360

aacgtagaaa tgaacctatc aaataccagc gagagctatg gaataaaact attgatgcga    420

tgaagagagt tgaagaaatc aaacagaagc gccaagctaa atttataatg aacagattga    480

agaaaaataa agagctacag aaagttcagg atatcaaaga agtcaagcaa aacatccatc    540

ttatccgagc ccctcttgca ggcaaaggga aacagttgga agagaaaatg gtacagcagt    600

tacaagagga tgtggacatg gaagatgctc cttaaaaatc tctgtaacca tttctttttat   660

gtacatttga aaatgccctt tggatacttg gaactgctaa attattttat tttttacata    720

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<211>  1245
<212>  DNA
<213>  Homo sapiens

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cagttggttc attccttcag gacctacaaa atgaagataa gggtatcaaa actgcagcca    420
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70

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aaccaagtaa tgagcacact gctgagatgg aacacatgaa atccttggtt cacagactat    600

ttacaatctt gcatttagaa gagtctcaga aaaagagaga gcaccattta ctggagaaaa    660

ttgaccacct gaaggaacag ctgcagcccc ttgaacaggt gaaagctgga atagaagctc    720

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gtggggcact ggcctggctc acgtggtggg tgtactcctg ggatatcatg gagccagtta    840

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aggattatac ttactcagct gttaagagta ggcaatttct tcagttcttc cacaagaaat    960

caaagcaaca gcactttgat gtgcagcaat acaacaagtt aaaagaagac cttgctaagg   1020

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tcaatgaaaa gaattaatct tacagtttta aatgtcgtca gattttccat tatgtattga   1140

ttttgcaact taggatgttt ttgagtccca tggttcattt tgattgttta atctttgtta   1200

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<211>  440
<212>  DNA
<213>  Homo sapiens


<220>
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<223>  n is a, c, g, t or u

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gagggaaggt taatggttga tattgctagg gtggtgcttc caattaggtg catgaagagg    180

tggcctgcag taatgttagc gcgttaggcg tacggccaga ggctattngg ttgaatgagt    240

aggctgatgg tttcgataat aactagtatg gggaataagg gtgtaagtgt tccctgtggt    300

aaaaaatagg ccaaggcaat tttaaaccta gagcgaaagc gcataaacac tgggcccgcg    360

cataaagggg ttgccacagc taaggttata gataaattgg tgggttgtgt aaaagagaga    420

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<211>  3148
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<212>  DNA
<213>  Homo sapiens

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acatccgcaa catgtctgtc atcgcccacg tggaccatgg caagtccacg ctgacagact   180

ccctggtgtg caaggcgggc atcatcgcct cggcccgggc cggggagaca cgcttcactg   240

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tccacgggtg ggccttcacc ctgaagcagt ttgccgagat gtatgtggcc aagttcgccg   780

ccaaggggga gggccagttg gggcctgccg agcgggccaa gaaagtagag gacatgatga   840

agaagctgtg gggtgacagg tactttgacc cagccaacgg caagttcagc aagtcagcca   900

ccagccccga agggaagaag ctgccacgca ccttctgcca gctgatcctg accccatct   960

tcaaggtgtt tgatgcgatc atgaatttca gaaagagga cagcaaaa ctgatagaga  1020

aactggacat caaactggac agcgaggaca aggacaaaga aggcaaaccc ctgctgaagg  1080

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cggggctggt ctccactggc ctgaaggtca ggatcatggg gcccaactat acccctggga  1380

agaaggagga cctctacctg aagccaatcc agagaacaat cttgatgatg gccgctacg  1440

tggagcccat cgaggatgtg ccttgtggga acattgtggg cctcgtgggc gtggaccagt  1500

tcctggtgaa gacgggcacc atcaccacct tcgagcacgc gcacaacatg cgggtgatga  1560

agttcagcgt cagccctgtt gtcagagtgg ccgtggaggc caagaacccg ctgacctgc  1620

ccaagctggt ggaggggctg aagcggctgg ccaagtccga ccccatggtg cagtgcatca  1680

tcgaggagtc gggagagcac atcatcgcgg gcgccggcga gctgcacctg gagatctgcc  1740
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tgaaggacct ggaggaggac cacgcctgca tccccatcaa gaaatctgac ccggtcgtct    1800

cgtaccgcga gacggtcagt gaagagtcga acgtgctctg cctctccaag tcccccaaca    1860

agcacaaccg gctgtacatg aaggcgcggc ccttccccga cggcctggcc gaggacatcg    1920

ataaaggcga ggtgtccgcc cgtcaggagc tcaagcagcg ggcgcgctac ctggccgaga    1980

agtacgagtg ggacgtggct gaggcccgca agatctggtg ctttgggccc gacggcaccg    2040

gccccaacat cctcaccgac atcaccaagg gtgtgcagta cctcaacgag atcaaggaca    2100

gtgtggtggc cggcttccag tgggccacca aggagggcgc actgtgtgag gagaacatgc    2160

ggggtgtgcg cttcgacgtc cacgacgtca ccctgcacgc cgacgccatc caccgcggag    2220

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gcatctacgg ggttttgaac aggaagcggg ccacgtgtt cgaggagtcc caggtggccg     2400

gcacccccat gtttgtggtc aaggcctatc tgcccgtcaa cgagtccttt ggcttcaccg    2460

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aaactcagat gtccaaacta attttaacaa acgcattaag aggtttattt gggtacatgg    3000

cccgcagtgg cttttgcccc agaaggggga aaggaacacg cgggtagatg atttctagca    3060

ggcaggaagt cctgtgcggt gtcaccatga gcacctccag ctgtactagt gccattggaa    3120

                                                                      3148
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<211>   1404
<212>   DNA
<213>   Homo sapiens

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atgaagccga tgagaaacct cgtgttagtc tgacatgcac tcactcatcc atttctatag    120

gatgcacaat gcatgtgggc cctaatattg aggccttatc cctgcagcta ggagggggag    180
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73

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gggttgttgc tgctttgctt cgtgttttct tctaacctgg caaggagaga gccaggccct    240

ggtcagggct cccgtgccgc ctttggcggt tctgtttctg tgctgatctg gaccatcttt    300

gtcttgcctt ttcacggtag tggtccccat gctgaccctc atctgggcct gggccctctg    360

ccaagtgccc ctgtgggatg ggaggagtga ggcagtggga gaagaggtgg tggtcgtttc    420

tatgcattca ggctgccttt ggggctgcct cccttcttat tcttccttgc tgcacgtcca    480

tctcttttcc tgtctttgag attgacctga ctgctctggc aagaagaaga ggtgtcctta    540

cagaggcctc tttactgacc aactgaagta tagacttact gctggacaat ctgcatgggc    600

atcacccctc cccgcatgta acccaaaaga ggtgtccaga gccaaggctt ctaccttcat    660

tgtccctctc tgtgctcaag gagttccatt ccaggaggaa gagatctata ccctaagcag    720

atagcaaaga agataatgga ggagcaattg gtcatggcct tggtttccct caaaacaacg    780

ctgcagattt atctgcacaa acatctccac ttttggggga aggtgggta gattccagtt    840

ccctggacta ccttcaggag gcacgagagc tgggagaaga ggcaaagcta caggtttact    900

tgggagccag ctgagaagag agcagactca caggtgctgg tgcttggatt tagccaggct    960

cctccgagca cctcatgcat gtcccagccc ctgggccta gcctttcct gccctgcagt   1020

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aatggtctta gaattcattg agacccatag cttcatatgg ctgctccagc cccacttctt   1140

agcattctta ctcctcttct ggggctaatg tcagcatcta tagacaatag actattaaaa   1200

aatcaccttt taaacaagaa acggaaggca tttgatgcag aatttttgca tgacaacata   1260

gaaataattt aaaaatagtg tttgttctga atgttggtag acccttcata gctttgttac   1320

aatgaaacct tgaactgaaa atatttaata aaataacctt taaacagtca aaaaaaaaa   1380

aaaaaaaaaa aaaaaaaaaa aaaa                                         1404
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<210>   58
<211>   1483
<212>   DNA
<213>   Homo sapiens

<400>   58
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acgctgagca gagtcctgtg gctctccggc ctctctgagc cgggagctgc ccggcagccc    120

cggatcatgg aagagaaagc gctagaggtt tatgatttga ttagaactat ccgggaccca    180

gaaaagccca atactttaga agaactggaa gtggtctcgg aaagttgtgt ggaagttcag    240

gagataaatg aagaagaata tctggttatt atcaggttca cgccaacagt acctcattgc    300

tctttggcga ctcttattgg ctgtgcttta agagtaaaac ttcagcgatg tttaccattt    360
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                              74
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aaacataagt tggaaatcta catttctgaa ggaacccact caacagaaga agacatcaat    420

aagcagataa atgacaaaga gcgagtggca gctgcaatgg aaaaccccaa cttacgggaa    480

attgtggaac agtgtgtcct tgaacctgac tgatagctgt tttaagagcc actggcctgt    540

aattgtttga tatatttgtt taaactcttt gtataatgtc agagactcat gtttaataca    600

taggtgattt gtacctcaga gcattttta aaggattctt tccaagcgag atttaattat    660

aaggtagtac ctaatttgtt caatgtataa cattctcagg atttgtaaca cttaaatgat    720

cagacagaat aatattttct agttattatg tgtaagatga gttgctattt ttctgatgct    780

cattctgata caactatttt tcgtgtcaaa tatctactgt gcccaaatgt actcaattta    840

aatcattact ctgtaaaata aataagcaga tgattcttaa aaaaaaaaa aaaaaaaaaa    900

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa    960

acctttctcg ttccccggcc atcttagcgg ctgctgttgg ttgggggccg tcccgctcct   1020

aaggcaggaa gatggtggcc gcaaagaaga cgaaaaagtc gctggagtcg atcaactcta   1080

ggctccaact cgttatgaaa agtgggaagt acgtcctggg gtacaagcag actctgaaga   1140

tgatcagaca aggcaaagcg aaattggtca ttctcgctaa caactgccca gctttgagga   1200

aatctgaaat agagtactat gctatgttgg ctaaaactgg tgtccatcac tacagtggca   1260

ataatattga actgggcaca gcatgcggaa aatactacag agtgtgcaca ctggctatca   1320

ttgatccagg tgactctgac atcattagaa gcatgccaga acagactggt gaaaagtaaa   1380

cctttcacc tacaaaattt cacctgcaaa ccttaaacct gcaaaatttt cctttaataa   1440

aatttgcttg ttttaaaaaa aaaacaaaa aaaaaaaaaa aaa                      1483
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<210>  59
<211>  1934
<212>  DNA
<213>  Homo sapiens

<400>  59
gtccatgggg accctcgcct tcgatgaata tgggcgccct ttcctcatca tcaaggatca     60

ggaccgcaag tcccgtctta tgggacttga ggccctcaag tctcatataa tggcagcaaa    120

ggctgtagca aatacaatga gaacatcact tggaccaaat gggcttgata agatgatggt    180

ggataaggat ggggatgtga ctgtaactaa tgatggggcc accatcttaa gcatgatgga    240

tgttgatcat cagattgcca agctgatggt ggaactgtcc aagtctcagg atgatgaaat    300

tggagatgga accacaggag tggttgtcct ggctggtgcc ttgttagaag aagcggagca    360

attgctagac cgaggcattc acccaatcag aatagccgat ggctatgagc aggctgctcg    420

cgttgctatt gaacacctgg acaagatcag cgatagcgtc cttgttgaca taaaggacac    480
```

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cgaaccccctg attcagacag caaaaaccac gctgggctcc aaagtggtca acagttgtca   540

ccgacagatg gctgagattg ctgtgaatgc cgtcctcact gtagcagata tggagcggag   600

agacgttgac tttgagctta tcaaagtaga aggcaaagtg ggcggcaggc tggaggacac   660

taaactgatt aagggcgtga ttgtggacaa ggatttcagt cacccacaga tgccaaaaaa   720

agtggaagat gcgaagattg caattctcac atgtccattt gaaccaccca aaccaaaaac   780

aaagcataag ctggatgtga cctctgtcga agattataaa gcccttcaga aatacgaaaa   840

ggagaaattt gaagagatga ttcaacaaat taaagagact ggtgctaacc tagcaatttg   900

tcagtggggc tttgatgatg aagcaaatca cttacttctt cagaacaact tgcctgcggt   960

tcgctgggta ggaggacctg aaattgagct gattgccatc gcaacaggag ggcggatcgt   1020

ccccaggttc tcagagctca gccgagaa gctgggcttt gctggtcttg tacaggagat   1080

ctcatttggg acaactaagg ataaaatgct ggtcatcgag cagtgtaaga actccagagc   1140

tgtaaccatt tttattagag gaggaaataa gatgatcatt gaggaggcga aacgatccct   1200

tcacgatgct ttgtgtgtca tccggaacct catccgcgat aatcgtgtgg tgtatggagg   1260

aggggctgct gagatatcct gtgccctggc agttagccaa gaggcggata agtgccccac   1320

cttagaacag tatgccatga gagcgtttgc cgacgcactg gaggtcatcc ccatggccct   1380

ctctgaaaac agtggcatga atcccatcca gactatgacc gaagtccgag ccagacaggt   1440

gaaggagatg aaccctgctc ttggcatcga ctgtttgcac aaggggacaa atgatatgaa   1500

gcaacagcat gtcatagaaa ccttgattgg caaaaagcaa cagatatctc ttgcaacaca   1560

aatggttaga atgattttga agattgatga cattcgtaag cctggagaat ctgaagaatg   1620

aagacattga gaaaactatg tagcaagatc cacttctgtg attaagtaaa tggatgtctc   1680

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ctatctcaac tgcttttgta ttcattgtat taaaagaatc tgtttaaaca acctttatct   1860

tctcttcggg tttaagaaac gtttattgta acagtaatta aatgctgcct taattgaaaa   1920

aaaaaaaaaa aaaa                                                     1934
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<210>   60
<211>   2220
<212>   DNA
<213>   Homo sapiens

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aagagcccaa caatcaccat gatgctgagc acggaaggca gggaggggtt cgtggtgaag   120
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76

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gtcaggggcc taccctggtc ctgctcagcc gatgaagtga tgcgcttctt ctctgattgc      180

aagatccaaa atggcacatc aggtattcgt ttcatctaca ccagagaagg cagaccaagt      240

ggtgaagcat ttgttgaact tgaatctgaa gaggaagtga aattggcttt gaagaaggac      300

agagaaacca tgggacacag atacgttgaa gtattcaagt ctaacagtgt tgaaatggat      360

tgggtgttga agcatacagg tccgaatagc cctgatactg ccaacgatgg cttcgtccgg      420

cttagaggac tcccatttgg ctgtagcaag gaagagattg ttcagttctt ttcagggttg      480

gaaattgtgc caaatgggat gacactgcca gtggactttc aggggcgaag cacaggggaa      540

gcctttgtgc agtttgcttc acaggagata gctgagaagg ccttaaagaa acacaaggaa      600

agaatagggc acaggtacat tgagatcttc aagagtagcc gagctgaagt tcgaacccac      660

tatgatcccc ctcgaaagct catggctatg cagcggccag gtccctatga taggccgggg      720

gctggcagag ggtataatag cattggcaga ggagctgggt ttgaaaggat gaggcgtggt      780

gcctatggtg gagggtatgg aggctatgat gactatggtg ctataatga tggatatggc       840

tttgggtctg atagatttgg aagagacctc aattactgtt tttcaggaat gtctgatcat      900

agatacggag atggtgggtc cagtttccag agcaccacag ggcactgtgt acacatgagg      960

gggttacctt acagagccac tgagaatgat atttataatt cttctcacc  tcttaatccc     1020

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tttgctactc atgaagatgc tgtggcagct atggcaaaag acaaagctaa tatgcaacac     1140

agatatgtgg agctcttctt aaattctact gcaggaacaa gtggggggtgc ttacgatcac     1200

agctatgtag aactttttt  gaattctaca gcaggggcaa gtggtggcgc ttatggtagc     1260

caaatgatgg gagggatggg cttatccaac cagtctagtt atggaggtcc tgctagccag     1320

cagctgagtg gtggttatgg aggtggttat ggtggtcaga gcagtatgag tggatatgac     1380

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taacagtttt gcattacagg cttgtgattc atgcttactg taaagtggaa gttgagatta     1680

ttttaaaact tcaagctcag taattttgaa ccactgaaac attcatctag gacataataa     1740

caaagttcag tattgaccat aactgttaaa acaattttta gctttcctca agttagttat     1800

gttgtaggag tgtacctaag cagtaagcgt atttaggtta atgcagtttc acttatgtta     1860

aatgttgctc ttataccaca aatacattga aaacttcgga tgcatgttga gaaacatgcc     1920
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77

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tttctgtaaa actcaaatat aggagctgtg tctacgattc aaagtgaaaa catttggcat    1980

gtttgttaat tctagctttt tggtttaata tcctgtaagg cacgtgagtg tacacttttt    2040

tttttttttaa ggatacggga caattttaag atgtaatacc aatactttag aagtttggtc    2100

gtgtcgtttg tatgaaaatc tgaggctttg gtttaaatct ttccttgtat tgtgatttcc    2160

atttagatgt attgtactaa gtgaaacttg ttaaataaat cttccttta aaaactggaa    2220
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<210> 61
<211> 1972
<212> DNA
<213> Homo sapiens

<400> 61
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aggtgcaaga ggttggcagc ttcgattgaa gcacatcgac cggcgacagc agccaggagt   120

catgagcgac agcggcgagc agaactacgg cgagcgggaa tcccgttctg cttccagaag   180

tggaagtgct cacggatcgg ggaaatctgc aaggcatacc cctgcaaggt ctcgctccaa   240

ggaagattcc aggcgttcca gatcaaagtc caggtcccga tctgaatcta ggtctagatc   300

cagaagaagc tcccgaaggc attatacccg gtcacggtct cgctcccgct cccatagacg   360

atcacgtagc aggtcttaca gtcgagatta tcgtagacgg cacagccaca gccattctcc   420

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atatggtccc attgccgatg tgtctattgt atatgaccag cagtctaggc gttcaagagg   600

atttgccttt gtatattttg aaaatgtaga tgatgccaag gaagctaaag aacgtgccaa   660

tggaatggag cttgatgggc gtaggatcag agttgatttc tctataacaa aaagaccaca   720

tacgccaaca ccaggaattt acatggggag acctacctat ggcagctctc gccgtcggga   780

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tcgatcatac tcacctcgtc gctattaaag catgaagact ttctgaaacc tgccctagag   1020

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ctagtgaagt taggtgactt ttacacctct tacgatgact acttttggtg gagttgaaat   1140

gctgttttca ttctgcattt gtgtagtttg gtgctttgtt ccaagttaag tgttttcaga   1200

aaagtatgtt ttgcatgtat tttttttacag tctaaatttt gactgctgag aagtttctat   1260

tgtacaaaac ttcatttaaa aggttttttct actgaatcca gggtattctg aagatcgaag   1320
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cctgtgtaaa atgctaccaa atggcaaaaa gcaacaataa acagtttgat ttttactttt   1380

cttttctaaca tatcaatgct tagcagaact attcagattg tcagtagtaa atttaaagac   1440

aaatgcccgt tttcctccag tccatgaaac ataccatact tatatacctg caactaagtg   1500

tttaaaatta tgctctgtaa ctctgtactg ctagtattag aactaaaaat cttaaaatac   1560

agccagtgct taatgcttat atcaatgtgg atttgtcggc ttttatgtaa tctgtaatat   1620

gtatagcagg aaatacgaag agttacacag tgtatgcctt aaaaggctgt ttcttaaagg   1680

tgttacaagg ggataatggt atttcaacta gttatcagca agtgacaata cattccacca   1740

caaatacact cttgttcttc tagcttttag actatatgaa aaaaccgggt gcttcaaagt   1800

acatgataag ggaacactat acctgtcatg gatgaactga agactttgcc tgttcatttt   1860

ttaaatatta ttttcaggtc ctttgcttac caaaggaggc ccaatttcac tcaaatgttt   1920

tgagaactgt gtttaaataa acgcaaatga aaagaaaaaa aaaaaaaaaa aa           1972
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<210>   62
<211>   1321
<212>   DNA
<213>   Homo sapiens

<400>   62
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ctttgggttc cagttgatgg gcaagtggac accacaaagg cagtgatctc tttgcagcct   120

ccatgggtca gcgtgttcca agaggaaacc gtaaccttgc actgtgaggt gctccatctg   180

cctgggagca gctctacaca gtggtttctc aatggcacag ccactcagac ctcgaccccc   240

agctacagaa tcacctctgc cagtgtcaat gacagtggtg aatacaggtg ccagagaggt   300

ctctcagggc gaagtgaccc catacagctg gaaatccaca gaggctggct actactgcag   360

gtctccagca gagtcttcac ggaaggagaa cctctggcct tgaggtgtca tgcgtggaag   420

gataagctgg tgtacaatgt gctttactat cgaaatggca aagcctttaa gttttttccac   480

tggaattcta acctcaccat tctgaaaacc aacataagtc acaatggcac ctaccattgc   540

tcaggcatgg gaaagcatcg ctacacatca gcaggaatat ctgtcactgt gaaagagcta   600

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gtctggtttc atgtcctttt ctatctggca gtgggaataa tgttttttagt gaacactgtt   960
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ctctgggtga caatacgtaa agaactgaaa agaaagaaaa agtgggattt agaaatctct    1020

ttggattctg gtcatgagaa gaaggtaact tccagccttc aagaagacag acatttagaa    1080

gaagagctga aatgtcagga acaaaaagaa gaacagctgc aggaaggggt gcaccggaag    1140

gagccccagg gggccacgta gcagcggctc agtgggtggc catcgatctg gaccgtcccc    1200

tgcccacttg ctccccgtga gcactgcgta caaacatcca aaagttcaac aacaccagaa    1260

ctgtgtgtct catggtatgt aactcttaaa gcaaataaat gaactgactt caaaaaaaaa    1320

a                                                                    1321
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<210>    63
<211>    2972
<212>    DNA
<213>    Homo sapiens

<400>    63
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acttcgtctt acgttccgaa aggaaggcgt ctgttgagcc tttctctcag tcgtgaggga     120

ggcgtcgacg gcgtgcggaa gtcctgagtt gaggcttgcg ggatcctttc cggagaaagc     180

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81

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84

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<220>
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<223>    n is a, c, g, t or u

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ggggggggtt tccatctta aaacctaacc aggcttttgg gacaacacat tccttgcaat     180

agaccctgga cacatttatc aaacacggtn gggaaagtct cactctgcat tataaaagga    240

cagccagata tcaactgttc agaaatgaaa ttagaccgga aatttttaa ccaaattgtt     300

aaacctattt ctttaagagg acttcctcca ctggccaaga tcttgaatag gcctcttggc    360

agtcatccgg aggcaattct tcacataatt gatgaatttg gcttccactt ttggaagaga    420

accacccttt ttcttaactg cttgcatttt gcttttatgc ttctacgaaa caggccctct    480

ttggggttta gg                                                       492
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<210>    69
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<212>    DNA
<213>    Homo sapiens

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gtacagagct tatttgggga atcttcatcc tcattatatt ctttggacaa ctgcacatgg    180

attcggcatg ggacattcct tattcctttg gcccagacag ccttgttgag cctggtatca    240
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gttgtgcaca tttagagttc ccatctcctt cctgacaaat ttccgaatct ctttgagtgc    300

tcaaggggca tgcttcttga agcccactcc atggatgcac ttgtgaatgt tgatggggta    360

ttctcgggtc accacctcat tgatggcaga acggcccttt ttcttcttgc caccttctt     420
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<211>    2663
<212>    DNA
<213>    Homo sapiens

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cagttaaaag aagaggaaga accaatggat acttccagtg taactcacac agaacactac    180

aagacactga tagaggcagg cctcccacag aaggtggcag aaagacttga tgaaatattt    240

cagacaggat tggtagctta tgtcgatctt gatgaaagag caattgatgc tctcagggaa    300

tttaatgaag aaggagctct gtctgtacta cagcagttca aggaaagtga cttatcacat    360

gttcagaaca aaagtgcatt tttatgtgga gttatgaaga cctacaggca gagagagaaa    420

caggggagca aggtgcaaga gtccacaaag ggacctgatg aagcgaagat caaggccttg    480

cttgagagaa ctggttatac tctggatgta accacaggac agaggaagta tggtggtcct    540

ccaccagaca gtgtgtactc tggcgtgcaa cctggaattg gaacggaggt atttgtaggc    600

aaaataccaa gggatttata tgaggatgag ttggtgcccc tttttgagaa ggccggaccc    660

atttgggatc tacgtcttat gatggatcca ctgtccggtc agaatagagg gtatgcattt    720

atcaccttct gtggaaagga agctgcacag gaagccgtga aactgtgtga cagctatgaa    780

attcgccctg gtaaacacct tggagtgtgc atttctgtgg caaacaacag actttttgtt    840

ggatccattc cgaagaataa gactaaagaa aacattttgg aagaattcag taaagtcaca    900

gagggtttgg tggacgttat tctctatcat caacccgatg acaaaaagaa gaatcggggg    960

ttctgcttcc ttgaatatga ggatcacaag tcagcagcac aagccagacg ccggctgatg   1020

agtggaaaag taaagtgtg gggaaatgta gttacagttg aatgggctga ccctgtggaa    1080

gaaccagatc cagaagtcat ggctaaggta aaagttttgt ttgtgagaaa cttggctact   1140

acggtgacag aagaaatatt ggaaaagtca ttttctgaat ttggaaaact cgaaagagta   1200

aagaagttga aagattatgc atttgttcat tttgaagaca gaggagcagc tgttaaggct   1260

atggatgaaa tgaatggcaa agaaatagaa ggggaagaaa ttgaaatagt cttagccaag   1320

ccaccagaca gaaaaggaa agagcgccaa gctgctagac aggcctccag aagcactgcg    1380

tatgaagatt attactacca ccctcctcct cgcatgccac ctccaattag aggtcggggt   1440
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cgtggtggggg ggagaggtgg atatggctac cctccagatt actacggcta tgaagattac    1500

tatgatgatt actatggtta tgattatcac gactatcgtg gaggctatga agatccctac    1560

tacggctatg atgatggcta tgcagtaaga ggaagaggag gaggaagggg agggcgaggt    1620

gctccaccac caccaagggg gaggggagca ccacctccaa gaggtagagc tggctattca    1680

cagaggggg cacctttggg accaccaaga ggctctaggg gtggcagagg gggtcctgct    1740

caacagcaga gaggccgtgg ttcccgtgga tctcggggca atcgtggggg caatgtagga    1800

ggcaagagaa aggcagatgg gtacaaccag cctgattcca agcgtcgtca gaccaacaac    1860

caacagaact ggggttccca acccatcgct cagcagccgc ttcagcaagg tggtgactat    1920

tctggtaact atggttacaa taatgacaac caggaatttt atcaggatac ttatgggcaa    1980

cagtggaagt agacaagtaa gggcttgaaa atgatactgg caagatacga ttggctctag    2040

atctacattc ttcaaaaaaa aaaattggct taactgtttc atctttaagt agcatttgc    2100

tgccatttgt attgggctga agaaatcact attgtgtata tactcaagtc tttttatttt    2160

tcctctttttc ataaatgctc ttggacatta ttgggcttgc agagttccct tattctgggg    2220

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ttaaatcatg attttgcaga acctttggtt ttggacagtt tcattttttt ggatttggga    2340

tagattacat aggagtatgg agtatgctgt aaataaaaat acaagctagt gctttgtctt    2400

agtagtttta agaaattaaa gcaaacaaat ttaagttttc ttgtattgaa aataacctat    2460

gattgtatgt tttgcattcc tagaagtagg ttaactgtgt ttttaaattg ttataacttc    2520

acaccttttt gaaatctgcc ctacaaaatt tgtttggctt aaacgtcaaa agccgtgaca    2580

atttgttctt tgatgtgatt gtatttccaa tttcttgttc atgtaagatt tcaataaaac    2640

                                                                     2663
taaaaaatct attcaaaaca tta
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<210>  71
<211>  282
<212>  DNA
<213>  Homo sapiens

<400>  71
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aattttttttt ttttaaaat ttgattcccc ccaattttgt tggcattaaa attaaaggca     120

ttaagctgga atggttttttt cccaaaccca aaaattgggt ttaccaaaaa ggggaatagg     180

agttgttcag tattttcaaa ttacaaatca atttaaaaaa acaaacccct tgcttacatt     240

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gtttgggcca caaatttaaa cttcaggggg gcattagaaa ac
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<210> 72
<211> 2870
<212> DNA
<213> Homo sapiens

<400> 72
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cctgcgggag cccatccccc accctacccc ccgggcccgg gggacaggtg tgcacggggc     120

ggccaagggc accttcgcca ccttcgagcg ggcgaggtcc gggcggggac ggggcgggga     180

ccgagctagc ggagccagcg cagcctgccc ggctcagccc ggcccggcca cagcacaaag     240

gaaagcgagg gcgggggagg agcggagcgg gctgggggcc gggcgccccg cccaccgggg     300

ggcctctcgg agtgggccgc cctccccccg aaacctgggc tggagtgagg tggaaggatg     360

tttgctgcca catggcgacc gcgaagtgac tcccttaccg ccgcgggtcg cggaggaggc     420

agggggaagg tgcccatctg gttcctaggc ctcctctccc tgctggcaga tgggaacagg     480

ttcttcttga ggaaactgag gcaaagagga gggcaggtct gagggacccc gcttgggctg     540

gcctcacccg cacactggga gggcagccag gtggggactc tgacctgggg gcttctggag     600

gagaggatga gatggctggg catccatggc atggtactgc agcactggcc agcagccagg     660

cctggaggga tggacgcgag agacaagctc tcgtgtcctg cagggctctg tacacatatg     720

aagatggctc cgatgacctc aagcttgcag catcaggaga agggggcttg caggagcttt     780

cgggacactt tgagaaccag aaggtgatgt acggcttctg cagtgtcaag gactcccaag     840

ctgctctgcc aaaatacgtg ctcatcaact gggtgggcga agatgtgcct gatgcccgca     900

agtgcgcttg tgccagccac gtggctaagg tggcagagtt cttccagggt gtcgacgtga     960

tcgtgaacgc cagcagcgtg gaagacatag acgcgggtgc catcgggcag cggctctcta    1020

acgggctggc gcgactctcc agccctgtgc tgcaccgact gcggctgcga gaggatgaga    1080

acgcagagcc cgtgggcacc acctaccaga gacggatgc agctgtggaa atgaagcgga    1140

ttaaccgaga gcagttctgg gagcaggcca agaaggaaga agagctgcgg aaggaggagg    1200

agcggaagaa ggccctggat gagaggctca ggttcgagca ggagcggatg gagcaggagc    1260

ggcaggagca agaggagcgc gagcggcgct accgggagcg ggagcagcag atcgaggagc    1320

acaggaggaa acagcagact ttagaagcgg aagaggccaa gaggcggttg aaggagcagt    1380

ctatctttgg tgaccatcgg gatgaggagg aagagaccca catgaagaag tcagagtcgg    1440

aggtggagga ggcagcagct attattgccc agcggcctga caacccaagg gagttcttca    1500

agcagcagga aagagtcgca tcggcctctg cgggcagctg tgatgtaccc tcgcccttca    1560

accatcgacc aggcagccac ctggacagcc accggaggat ggcgcccact cccatcccca    1620

cgcggagccc gtctgactcc agcaccgcct ccaccccctgt cgctgagcag atagagcggg    1680
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ccctggatga ggtcacctcc tcgcagcctc caccactgcc accgccaccc ccaccagccc   1740

aagagaccca ggagcccagc cccatcctag acagtgagga gaccagagca gcagcccctc   1800

aggcctgggc cggccccatg gaggagcccc ctcaggcaca ggcgcctccc cggggggccag  1860

gcagccctgc agaggacttg atgttcatgg agtctgcaga gcaggctgtc ctggctgctc   1920

ccgtggagcc tgccacagct gacgccacgg aggtccacga tgcagctgac accattgaaa   1980

ctgacactgc cactgctgac accactgttg ccaacaacgt accccccgcc gccaccagcc   2040

tcattgacct atggcctggc aacggggaag gggcctccac actccagggt gagcccaggg   2100

cccccacgcc accctcgggt actgaggtca ccctggcaga ggtgcccctg ctggatgagg   2160

tggctccgga gccactgctg ccagcaggcg aaggctgtgc cacccttctc aactttgatg   2220

agctgcctga ccgccagcc accttctgtg acccagagga agtggaaggg gagcccctgg    2280

ctgcccccca gaccccaact ctgccctcag cccttgagga gctggagcaa gagcaggagc   2340

cggagcccca cctgctaacc aatggcgaga ccacccagaa ggagggggacc caggccagtg   2400

aggggtactt cagtcaatca caggaggagg agtttgccca atcggaagag ctctgtgcca   2460

aggctccgcc tcctgtgttc tacaacaagc ctccagagat cgacatcaca tgctgggatg   2520

cagacccagt tccagaagag gaggagggct tcgagggtgg tgattagcgg tggcgccagc   2580

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cttggccgct tccctaccca cagggcctga cttttacagc ttttctcttt ttttaaaaag   2760

ttgataggaa aaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa     2820

aaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa               2870
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<211>   1329
<212>   DNA
<213>   Homo sapiens

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aacaccaatg gaccaaaatg aacacagtca ctggggacca catgcaaagg gccaatgtgc   120

cagcagatct gagctgagaa tcatcctggt gggcaaaaca ggaactggca aaagtgctgc   180

aggaacagc atcctcagga agcaagcatt tgaatcgaag ctgggttccc agaccttgac   240

taagacttgc agcaaaagtc agggaagctg gggaaataga gagattgtca ttattgacac   300

accagatatg ttttcttgga aggaccactg tgaagctctg tacaaagagg tgcagaggtg   360

ctacttgctc tctgcaccag gaccccatgt gctgctcctg gtgactcagc tgggccgcta   420
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tacctcacag gaccagcagg ctgcacagag ggtgaaggag atctttggag aggatgccat      480

gggacacaca attgtcctct ttacccacaa ggaagacctc aatggtggct ccctgatgga      540

ttacatgcac gactcagata acaaagccct aagcaagctg gtggcagcat gtggtgggcg      600

aatctgtgcc tttaataacc gtgctgaagg gagcaatcag gatgaccaag tgaaggaact      660

aatggactgt attgaggatc tgttgatgga gaaaaatggt gatcactata ccaatgggtt      720

gtacagccta atacagaggt ctaaatgtgg acctgtggga tcagatgaaa gagtaaagga      780

attcaaacag agccttataa agtacatgga aactcaaaga agttacacag ccttggctga      840

agcaaactgc ctaaaaggag ccttaatcaa aacacaactg tgtgttttat tttgtattca      900

gttgtttctc agattgataa ttctgtggct ttgcatactg cacagcatgt gcaatttgtt      960

ttgttgctta ctctttagta tgtgcaattt attctgcagt ttgctgttta ttatacccaa     1020

aaagttaatg atattttttga gaacagttat tagactagaa cgcaagactc ctaggttata     1080

gttacagatc ccagttatta tttactcact atcatttagt gggtgaatca cagtaatttc     1140

cctgtaaaat gtggtacctg aagtcatatt tgagattcta tgaaatgttt aaatcttaac     1200

atcactccaa ttattaatga accaaatcat acgataagtt actgtttgca ttgaaatata     1260

atatcaaagc cttttgaaat ctgtaaacat aaaattcctc tcattttcaa ataaaaaaaa     1320

aaaaaaaaa                                                            1329


<210>    74
<211>    1983
<212>    DNA
<213>    Homo sapiens

<400>    74
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aatttagcat tctgcaaaag aagttaacag ctgagataac gaggaaatat tctgaaatgg      120

atcccaaata tttcatctta attttgtttt gtggacacct gaacaataca ttttttttcaa      180

agacagagac aattacaaca gagaagcagt cacagcctac cttattcaca tcatcaatgt      240

cacaggtatt ggctaattct caaaacacaa cagggaatcc tttgggtcaa ccaacacaat      300

tcagcgacac tttttctgga caatcaatat cacctgccaa agtcactgct ggacaaccaa      360

caccagctgt ctatacctct tctgaaaaac cagaagcaca tacttctgct ggacaaccac      420

ttgcctacaa caccaaacaa ccaacaccaa tagccaacac ctcctcccag caagccgtgt      480

tcacctctgc cagacaacta ccatctgccc gtacttctac cacacaacca ccaaagtcat      540

ttgtctatac ttttactcaa caatcatcat ctgtccagat cccttctaga aaacaaataa      600

ctgttcataa tccatccaca caaccaacat caactgtcaa aaattcacct aggagtacac      660
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caggatttat cttagatact accagtaaca aacaaacccc acaaaaaaac aattataatt       720

caatagctgc catactaatt ggtgtacttc tgacttctat gttggtagct ataatcatca       780

ttgtactttg gaaatgctta aggaaaccag ttttaaatga tcaaaattgg gcaggtagat       840

ctccatttgc tgatggagaa acccctgaca tttgtatgga taacatcaga gaaaatgaaa       900

tatccacaaa acgtacatca atcatttcac ttacaccctg gaaaccaagc aaaagcacac       960

ttttagcaga tgacttagaa attaagttgt ttgaatcaag tgaaaacatt gaagactcca      1020

acaaccccaa aacagagaaa ataaaagatc aagtaaatgg tacatcagaa gatagtgctg      1080

atggttcaac agttggaact gctgtttctt cttcagatga tgcaggtctg cctccaccac      1140

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ttgtatctcc tcttccaaat gattctacta gtctccctcc atctctggac tgtctcaatc      1260

aagactgtgg agatcataaa tctgagataa tacaatcatt ccaccgctt gactcactta      1320

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agtgtcagga gttctctatt cctcccaact ctgatcaaga tcttaatgaa tccctgccac      1440

ctccacctgc agaactgtta taaatattac aacttgcttt ttagctgatc ttccatcctc      1500

aaatgactct tttttcttta tatgttaaca tatataaaat ggcaactgat agtcaatttt      1560

gatttttatt caggaactat ctgaaatctg ctcagagcct atgtgcatag atgaaacttt      1620

tttttaaaaa aagttatta acagtaatct atttactaat tatagtacct atctttaaag      1680

tatagtacat tttacatatg taaatggtat gtttcaataa tttaagaact ctgaaacaat      1740

ctacatatac ttattaccca gtacagtttt ttttcccctg aaaagctgtg tataaaatta      1800

tggtgaataa acttttatgt ttccatttca aagaccaggg tggagaggaa taagagacta      1860

agtatatgct tcaagtttta aattaatacc tcaagtatta aataaatatt ccaagtttgt      1920

gggaatggga gattaaaatg catgtttgag agtaaaaaaa aaaaaaaaa aaaaaaaaa       1980

aaa                                                                    1983
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<210>   75
<211>   2736
<212>   DNA
<213>   Homo sapiens

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cgggccccag cggcgggccc ggtggcggag gtggtggtgg cggcggaggc ggcggcaccg       180

aggtaatcca ggtgactaat gtctccccga gcgctagctc tgagcagatg cggactctct       240
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tcggtttcct aggcaagatc gacgaactgc gcctcttccc gccggatgat tcgcctttgc     300

cagtctcatc tcgtgtctgc tttgttaagt tccatgatcc agactcagca gttgtggcac     360

agcatctgac aaacactgta ttcgttgaca gagctttgat agtcgtacca tatgcagaag .   420

gagttattcc tgatgaagct aaagctttgt ctctgttggc accagctaat gcagtggcag     480

gtcttctgcc tggtggtgga ctcctgccta ctcctaaccc acttacccag attggcgctg     540

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ctggagcaaa cttgaactct cagtctcttg ctgcagatca gttgctgaag cttatgagta     660

ctgttgatcc caagttgaat catgtagctg ctggtctcgt ttcaccaagt ctgaaatcgg     720

atacctctag taaagaaata gaggaagcta tgaaaagagt acgagaagca cagtccctaa .   780

tttctgctgc tatagaacca gataagaaag aagaaaaaag aaggcattca agatcaagat     840

cacgttctag gaggaggagg actccctcat cttctagaca caggcggtca agaagcagat     900

cgagacggcg gtcacattct aagtctagga gtcggcgacg atccaaaagc ccaaggcgga     960

gaagatctca ttccagagaa agaggtagaa ggtcaaggag cacatcaaaa acaagagaca    1020

aaaagaaaga agacaaagaa aagaaacgtt ctaaaacacc accaaaaagt tacagcacag    1080

ccagacgttc tagaagtgca agcagagaga gacgacgacg aagaagcagg agtggcacaa    1140

·gatctcctaa aaagcctcgg tctcctaaaa gaaaattgtc ccgctcacca tcccctagga   1200

gacataaaaa ggagaagaag aaagataaag acaaagaaag aagtagggat gaaagagaac    1260

gatcaacaag caagaagaag aagagtaaag ataaggaaaa ggaccgggaa agaaaatcag    1320

agagtgataa agatgtaaaa caggttacac gggattatga tgaagaggaa cagggg tatg   1380

acagtgagaa agagaaaaaa gaagagaaga aaccaataga aacaggttcc cctaaaacaa    1440

aggaatgttc tgtggaaaag ggaactggtg attcactaag agaatccaaa gtgaatgggg    1500

atgatcatca tgaagaagac atggatatga gtgactgaat attgcctctg agggagtcca    1560

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atgaaaagct gcatgcatct acagcaggca tggattgttt atgtcgtatg atatccttta    1860

ttaagtaagt tcacttatag tatttctata atttgattca ttgccgtaat agagccatgt    1920

aggaaatgca ctgattgcat gttattgtgg caagaatatc ctaaatgtca ttaaaatcct    1980

ccaacatgat ggatctactt atggtcttgt ttgttgacat gacaaattaa cattcttata    2040
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95

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gttacatctg gaaatgagca tttgaaatag ataatccttt aagccttgtg gcaaaatttt     2100

tgtggctttt gtttaacttt gaaaggttat tatgcactaa ccttttttgg tggctaatta     2160

gggtttaaat acagaaacaa gatttcaaat aaaactgtct ttgggcagtg agtaaatagc     2220

atattttgaa gtagagttgt atactttttc ataagatgtt tgggaatttt tttcctgaag     2280

taataattta ttcccacatc tacatcagtg aaagctatct acctatcctg agtctatctt     2340

aaaggaaaaa aagaaaaaaa ccttatctct tgcccttatt ttgaattttc cactctttca     2400

ttaatttgtt ttaagctcct gttggaaaaa aaggggtagt gcattttaaa ttgaccttca     2460

tacgctttta aaataagaca aatctacttg ataatgtacc tttatttgat ctcaagttgt     2520

ataaaaccaa taaatttgtg ttactgcagt agtaatctta tgcacacggt gatttcatgt     2580

tatatatgca aagtaggcaa ctgttttctt agttacagaa gtttcaagct tcacttttgt     2640

gcagtagaaa caaaagtagg ctacagtctg tgccatgttg atgtacagtt tctgaaattg     2700

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ttttacaaga ctttgataat aaaacccttg aactta
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<211>  1839
<212>  DNA
<213>  Homo sapiens
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tatttataat gaaaagtggc atttgggtat agtcaccaca gcaatgttct acatccctaa     540

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agcaggctga ttgcaataga ctcagacatg cgaataaatg taattgagag tctattcatg     840

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gcattccttt ggaaaaaaaa atcttttat tttcaagtga taattttgtg ttttcctcat    960

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cacttgtagc aattacatga gaatttgaat tttgtcgtgt ttgggtttgt tcattcctgt   1740

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<213>  Homo sapiens

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cttgtttgaa tgctgcctcc attatatagg tccttccagg aactcaaaca ctgtaagtga   180

aatatgggag tatagttttt attatttctt cttttccttt tgttttcata atataatgca   240

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cgactcagca tacattttcc cacatacatt tttacattgt accttaggac tcagtcatct   540

ccacttaaat tgatgacaca agcagctaat aaccattct gggttctgc ctaaccccct     600

aattgtctgt taaagccaat tctctgggtg tcccagtgag tggtggcttt ttttctttcc    660
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aacgagtttt atataattaa tttaaatttg ttacaggttt tcatgttcag gataaaccat    1140

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gacaactgtt gcatgccaag ttttttgtgt gtgtgaaaca cttcaaaact gatttaaaag    1260

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agcgtgatat tctccgtgga aagtcagtgc cacattatgc tgctattgag cctgatggaa    780

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agaattaatt attctaacat attggcctct ttgtactgga aaagtattca gtggtacctg     1860

gaggtctgga cagttatact gtaacctctt aagtttaat gtgctaaata tatcttgtat     1920

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gtggaatgaa gctgcagatt tagagaacat tggcttctga aaaaaaaaaa gagtgaagat     2040

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<212>  DNA
<213>  Homo sapiens

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ttcttttttt aatgaacaag taaaccatac aaattgtcaa catgggacgg agatctacat     180

catccaccaa gagtggaaaa tttatgaacc ccacagacca agcccgaaag gaagcccgga     240

agagagaatt aaagaagaac aaaaaacagc gcatgatggt tcgagctgca gttttaaaga     300

tgaaggatcc aaaacagata atccgagaca tggagaaatt ggatgaaatg gagtttaacc     360
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ctgtcaagaa tgctcagcat gtggaagtgg agagtattcc tttgccagat atgccacatg      600

ctccttccaa cattttgatc caggacattc cacttcctgg tgcccagcca ccctctatcc      660

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cagaaaaggc ttctgttcac aacagtggcc catggagaaa gaggctctta ttaaacttag     2160

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100

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<213>    Homo sapiens

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ccagaaggcc aagctggccg agcaggccga gcgctacgac gacatggcca cctgcatgaa     180

ggcagtgacc gagcagggcg ccgagctgtc caacgaggag cgcaacctgc tctccgtggc     240

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gtccgagctg agatccatct gcaccacggt gctggaattg ttggataaat atttaatagc     420

caatgcaact aatccagaga gtaaggtctt ctatctgaaa atgaagggtg attacttccg     480

gtaccttgct gaagttgcgt gtggtgatga tcgaaaacaa acgatagata attcccaagg     540

agcttaccaa gaggcatttg atataagcaa gaaagagatg caacccacac acccaatccg     600

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agtcttttca cactgcagct ttgggaaaac ttcattcctt gatttgtgtt tgtcttggcc    1020

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aaaaaaaaaa aaaa                                                      1874
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<213>   Homo sapiens

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gtgtggacga gtagccagtg aagataatga atgtcgaatg tgactgacta gcagcttcat    240

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gttgcaacga tttctggcta gtgccacgag gtttacttga ctgttgtgtg aaaagctgat    360

aagaaaacca tccagaaaaa agctcttcgt tttacaaaca tgaaaataaa acatgtattt    420

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<212>   DNA
<213>   Homo sapiens


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<223>   n is a, c, g, t or u
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113

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gagctcctca agaatctcgt gctcaccggt ttctcccaca tcgacctgat tgatctggat      240

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tcaaaggcac aggttgccaa ggaaagtgta ctgcagtttt acccgaaagc taatatcgtt      360

gcctaccatg acagcatcat gaaccctgac tataatgtgg aatttttccg acagtttata      420

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gcagctgatg ttcctcttat tgaaagtgga acagctgggt atcttggaca agtaactact      540

atcaaaaagg gtgtgaccga gtgttatgag tgtcatccta gccgaccca gagaaccttt      600

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tacttgttca accagttgtt tggggaagaa gatgctgatc aagaagtatc tcctgacaga      720
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ccagttaaac tttttaccaa gcttttaaa gatgacatca ggtatctgtt gacaatggac     900

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aagaggaaat tagatgagaa agagaatctc agtgcaaaga ggtcacgtat agaacagaag   1980

gaagagcttg atgatgtcat agcattagat tgaacagaaa tgcctctaaa cagaaccctc   2040

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120

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atcggtgcca aggaccacgc atccatccag atgaacgtgg ccgaggttga caaggtcaca   180

ggcaggttta atggccagtt taaaacttat gctatctgcg gggccattcg taggatgggt   240

gagtcagatg attccattct ccgattggcc aaggccgatg gcatcgtctc aaagaacttt   300

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gagggagccg ctgccgcgtt agttccgagc ttgaagtcac taggacttct ctcaaacttg   180

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tgggcttggc agcaaggaag aggacaggta gtggagatcc tgcaatctga aaagcagact   360

gaaaggtgac aaagaagctg aagatgggtg gtggagagag gtataacatt ccagcccctc   420

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attcccagat gaagattgtt cataagaaaa aagaagagg acatggttat aactcatcag   540

cagctgcctg gcaggccatg caaaatgggg ggaagaacaa aaattttcca ataatcaaa   600

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ccttacttaa agtacaggta taaaataaga caaatgttta aatttagtta tgttcacgga   840

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121

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caagtttaga tttggggagt ggtaaaggaa tcagcttttt ctattgttag gggaagacag       1080

taatttatca ttcatggacc agtagattgt tgaaagttgg tgaatcggat tataagcttc       1140

tagctaacac aaggattcag aattaggtaa acatctgaag gtttagtata ttagaaacac       1200

ccaaaccagt aatatgctaa cctgatgcac tgctgaaaga aaatgtgaat ttttcgtaat       1260

aattgcattt tagtgaattg tacagtgggt ggaaagggca tttggagctc attagaatga       1320

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cctgcaaagc ttgctttggg gagttggata atgtgaaaat tttaagtacc taggggagaa       1560

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ccctagtgta ataagtttta taactaaaaa ggtttaagct gctaaaacta ttttaagag        1860

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tggaccactt atgcaaaaga tgtaaactct tgcataatac attgataaca tgttttgcca       2100

actttaaatg cttaaacata agcgaaacca gtagcaagta tgtgggtcag cttaaaaatt       2160

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atagcctaaa gacaagttta tgtagtactt aatgtacatg atatgaatgt gaagcataaa       2340

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<210> 91
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<213> Homo sapiens

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ctggaagagc tggtccaggg gactgaactc ccggcatctt tacagagcag agcatgatca   240

cattcctgcc gctgctgctg gggctcagcc tgggctgcac aggagcaggt ggcttcgtgg   300

cccatgtgga aagcacctgt ctgttggatg atgctgggac tccaaaggat ttcacatact   360

gcatctcctt caacaaggat ctgctgacct gctgggatcc agaggagaat aagatggccc   420

cttgcgaatt tggggtgctg aatagcttgg cgaatgtcct ctcacagcac ctcaaccaaa   480

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cagaagtgac tatcacgtgg aggaagaacg ggaagcttgt catgcctcac agcagtgcgc   720

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ttttaactgt cacatttacc agcagaatta tgaaatcaaa aacaaattct acattcaagg   180

gacaaacgat aaatgctctt tcattgtttt aagagtccat tccattcttt gttgttttct   240

actcccatat tttaaaatta tgaccaaagg agcctgaagg ccaagtcaat cccatttccc   300

tgaacccaac tgccagtagg tacgggccct acatacgcgt cctttaacaa gccccgttct   360
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caaaaggctg ggggtattta tataagaact tattccaaag tgactctaag atccatgttc   420

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<212> DNA
<213> Homo sapiens

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ggctgtgccc tcgactttcc agcttcccat gtttctttgg ttaggtttct ctcccttcct   180

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tgccactcat ttcagaactt gagcaaaaca gggcagtcag gatctgatgt ctttctggtc   360

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acgtgcacct gtagtcccag ctactagata ggctgaggca ggagaattgc ttgaatccgg   960

gaggcggagg ttgcagtgag ccgagatcgt gccactgaac tccaacctgc aatagagcg   1020

agactccgtc tcaaaaaaaa aaaaaaaaa gaaagaaata gcattgaaga aaataccgca   1080

catcagagga aagcttattt tctgcatggt gtcttttcaa agatagaata tttgaagcat   1140

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124

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tccagtgaca catgtgctga tagaattcta aacctctgga atttccctgc tggcgacttc    1560

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gagcattgca gcatggagga aactgtgagg caccagatcc tgtgcttctg caggccattt    1680

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tagttctgca agtcagatgt acacttagag tctctctgtg aagggtttgg gtctgagctg    1860

tatagtatgt caaactgcca gtaagccagc ccctcaccct ctgatagata ttcctttaat    1920

gcaccagact tcgtgtttga taaatgatta atggttgaaa ttgtttctct tcttttgtgt    1980

tttcccagtt aatagatggt cactgtttcc acaatgtttt atactttcag ctttttgtaa    2040

cttaactata attacttaat tttatttttt taaagcttgt tgtggtctaa tgagaagtat    2100

ttttcagtgc ataatgtttt tctgagcttc tgtaaatgcc atcccaatgt ggtttggttt    2160

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ttggggatgt ggtccttgct gctctgcggg ttgtccatcg cccttccact gtctgtcaca     180

gcagatggat gcaaggacat ttttatgaaa aatgagatac tttcagcaag ccagcctttt     240

gcttttaatt gtacattccc tcccataaca tctggggaag tcagtgtaac atggtataaa     300

aattctagca aaatcccagt gtccaaaatc atacagtcta gaattcacca ggacgagact     360

tggattttgt ttctccccat ggaatggggg gactcaggag tctaccaatg tgttataaag     420

ggtagagaca gctgtcatag aatacatgta aacctaactg tttttgaaaa acattggtgt     480

gacacttcca taggtggttt accaaattta tcagatgagt acaagcaaat attacatctt     540

ggaaaagatg atagtctcac atgtcatctg cacttcccga gagttgtgt tttgggtcca     600

ataaagtggt ataaggactg taacgagatt aagggggagc ggttcactgt tttggaaacc     660

aggcttttgg tgagcaatgt ctcggcagag gacagaggga actacgcgtg tcaagccata     720

ctgacacact cagggaagca gtacgaggtt ttaaatggca tcactgtgag cattacagaa     780

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aatctacgat gctggagagt caataacact ttggtggatg attactatga tgaatccaaa     960

cgaatcagag aaggggtgga aacccatgtc tcttttcggg aacataattt gtacacagta    1020

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gatgggaagc tgtatgacgc ctatgtctta taccccaagc cccacaagga aagccagagg    1320

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gcaggcccag aactaggctc aagaagaaag aagtgtactc tcacgactgg ctaagacttg    1860

ctggactgac acctatggct ggaagatgac ttgttttgct ccatgtctcc tcattcctac    1920

                                                                      1964
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ttctctgtag aattccgaga actagtttgg ttcacttaat catctcaatg gagatggccc     180

tttcctgcca ttcactcaaa tctagaactc ccaatatgtg gctcacaaat acttcagtca     240

tctacaaaag catctggaaa ttagataatt ttagccagag tcaggacat aaaacttctt      300

taaagggatg cagtcaatcc tggtattcac cacaaagaag atcctcatgt ataaaaatgt      360

ggaatctgtg ctgcttttaa taatagaacc tttaaggttc aaagaaaaaa aaaatgcttt      420

cctgaactac atcatttcca gacacatcag ccacacaagg agctgacaag acctgctgtt      480
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tctattatag agaacgtgag actttaaaac cacatcaaaa gaaaatggtg ggagctttc     540

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ctgcatttca gctcttgatc attctgccct ggggatccct tctctttagg ttctttgtta     720

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ctaaatgaat attatcccta atacctgcca ccccactctt aatcagtggt ggaagaacgg     960

tctcagaact gtttgtttca attggccatt taagtttagt agtaaaagac tggttaatga    1020

taacaatgca tcgtaaaacc ttcagaagga aaggagaatg ttttgtggac cactttggtt    1080

ttcttttttg cgtgtggcag ttttaagtta ttagttttta aaatcagtac ttttaatgg     1140

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aaaaaaaaaa aaaaaaaaa aa                                                1222
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<213> Homo sapiens

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<212>   DNA
<213>   Homo sapiens
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145

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146

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tcttagaact agaggattta agcagggtcg gaattacggg tttgtatata tgtatatact   1920
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165

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166

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168

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gagctgcgaa tccagctccg cagggcccgg cagacagagg acattcccat aattttggtt    780

ggcaacaaaa gtgacttagt gcggtgccga gaagtgtctg tatcagaagg gagagcctgt    840

gcagtggtgt ttgactgcaa gttcatcgag acctctgcag ctgtccagca caacgtgaag    900

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gaacggcggc tggcctacca gaaaaggaag gagagcatgc ccaggaaagc caggcgcttc   1020

tggggcaaga tcgtggccaa aaacaacaag aatatggcct tcaagctcaa gtccaaatcc   1080

tgccatgacc tctctgtact ctaggaaccc agggtcaccc agatgtccct ttgatggccc   1140

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gatagtaggg aagtaaagct tacaaagaat gcctagaaca agaacttttc atcattaaaa   1440

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gctagaattg tagaactagg ctcatcagaa tcgtgactat tattgctcca tcaaactgtg   1620

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agaattattg ataccctgta gtgcaaaatg tcaattttta atgtataatc agaagtctga   1920

attttcataa aacatatagc ataaaaacct ccagtacttt ggttgaccct tgtatgtcac   1980

agctctgctc tatttattat tattttgcaa ataaccatt ttaacatttg ataaagcata   2040

tttatgaaca tatttcttaa taagaaaaat atccatttta ttaccatttt ctatcttttt   2100

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<212>  DNA
<213>  Homo sapiens

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gttttccagt ttcttaatgc gaaatgcgag tcggctttcc tttccaagag gaatcctcgg    180

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caaaagaaaa gaacccgccg agcagtcaaa ttccagaggg ccattactgg tgcatctctt    300

gctgatataa tggccaagag gaatcagaaa cctgaagtta gaaaggctca acgagaacaa    360

gctatcaggg ctgctaagga agcaaaaaag gctaagcaag catctaaaaa gactgcaatg    420

gctgctgcta aggcacctac aaaggcagca cctaagcaaa agattgtgaa gcctgtgaaa    480

gtttcagctc cccgagttgg tggaaaacgc taaactggca gattagattt ttaaataaag    540

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attggattat aactct
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<211>    442
<212>    DNA
<213>    Homo sapiens

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cgcatccatg gagtgggctt caagaagcgt gcacctcggg cactcaaaga gattcggaaa    180

tttgccatga aggagatggg aactccagat gtgcgcattg acaccaggct caacaaagct    240

gtctgggcca aggaataag gaatgtgcca taccgaatcc gtgtgcggct gtccagaaaa    300

cgtaatgagg atgaagattc accaaataag ctatatactt tggttaccta tgtacctgtt    360

accactttca aaaatctaca gacagtcaat gtggatgaga actaatcgct gatcgtcaga    420

                                                                     442
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<211>    1230
<212>    DNA
<213>    Homo sapiens

<400>    134
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cgccgccgcc acagcggccc cctctctgaa gaatgcagcc ttcctaggtc caggggtatt    180

gcaggcaaca aggacctttc atacagggca gccacacctt gtccctgtac cacctcttcc    240

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tcctaaaact ggtgtaacag gaccctatgt actcggaact gggcttatct tgtacgcttt    360

atccaaagaa atatatgtga ttagcgcaga gaccttcact gccctatcag tactaggtgt    420

aatggtctat ggaattaaaa aatatggtcc ctttgttgca gactttgctg ataaactcaa    480
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tgagcaaaaa cttgcccaac tagaagaggc gaagcaggct tccatccaac acatccagaa    540

tgcaattgat acggagaagt cacaacaggc actggttcag aagcgccatt accttttttga   600

tgtgcaaagg aataacattg ctatggcttt ggaagttact taccgggaac gactgtatag    660

agtatataag gaagtaaaga atcgcctgga ctatcatata tctgtgcaga acatgatgcg    720

tcgaaaggaa caagaacaca tgataaattg ggtggagaag cacgtggtgc aaagcatctc    780

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tgaagttata gtttaccctt cctaaaaatg aaaagtttgt ttcatatagt gagagaacga   1020

aatctctatc ggccagtcag atgtttctca tccttcttgc tctgcctttg agttgttccg   1080

tgatcacttc tgaataagca gtttgccttt ataaaaactt gctgcctgac taaagattaa   1140

caggttatag tttaaatttg taattaattc taccatcttg caataaagtg acaattgaat   1200

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa                                      1230
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<211>   402
<212>   DNA
<213>   Homo sapiens

<400>   135
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cctccaggcc ccgccagcca ctgttttaat gcaggaacca cagggccaaa tccccacagg     240

tggttttttc attttggttt tgccacaaaa agagcaaggg tacttggggg gctggctgat     300

ttaaattttt ttcaccattt tccggaggga ggccccatag ggggtcccgt atttaccgac     360

aaacccgact tttttgggac gtttgggcat gtcgccgcaa cc                        402
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<212>   DNA
<213>   Homo sapiens

<400>   136
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aaaaacagaa tcagtaagtc tcaagtaata ctttcttctg aaagtaatat tttaagatac    180
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ctgaaacagt ttgttttttaa cagaaaatag agctccacat ttccaaaaga aaaaaaaatg    240

tttttggtct gcagataaac ttcctacctc tcgatctttg agtttcatgg cgagtaccaa    300

ctgatgcctg tggttagtga gagcctcccg gtaatttcct ttggagaaga atgcagagcc    360

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taagagccac agatttatta gctaagattt cacttatctt ctattagaaa agtatttgtt    540

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ggttaaagac cttaacacaa actagctgct gtttgagtcc tcattgccct gctaatgacc    720

tttgattcta aacaaccatc agcttgttgg ttcagtcatt tgactccaaa tctacaaaaa    780

aatatcttta caagtatgct ggtggtagat gcaccttatc ccttctctta ctccaatcct    840

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gccattgcct actatgtgag caatgaggag ctgcggggaa gtactccaga ggcagcagcc   1140

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gtgttcccca ccttgggcat catgcaccac aacaaacagg ccactgagaa tgcaaaggag   1260

gaagtgaggc gaattctggg gctgctggat gcttacttga agacgaggac ttttctggtg   1320

ggcgaacgag tgacattggc tgacatcaca gttgtctgca ccctgttgtg gctctataag   1380

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gtctgggtct tccgaggcca ggagcttgcc tttccgctga gtccagattg gcaggtggac   2040
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aagatcttca agtgaacatc tcttgccatc acctagctgc ctgcacctgc ccttcaggga    2220

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<210> 137
<211> 1634
<212> DNA
<213> Homo sapiens

<400> 137
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gccctgagat tttaagaaca taaaatgtga catttgatat ttctccagcc cagggaagta    420

agatggttag caatggttgc cttaatcaaa tggtcccatt tttaacccca aaggaagtgc    480

ccacagcaag aggtttgtgt gatgcactta tgtcctccgg tgaggaaagg gggccacata    540

tgaaaggccc cttaggtcag atcctgagag tagcacattt gagtgcagat tcctgggccc    600

cacctcaaac ctactaattc tgaatctctg ggaatagggc caggaaatct gccctttcta    660

caaactaccc aagttgttct gttgcacatc aatgtttggg aaccactgct gtaagggaat    720

cattctggtc accttgagct ttgagctacc actaagccat gaaagaaaat acatcataca    780

gggaagagag aagggaggag gttccaagta gtaactggca gatcctcctg tctggaggta    840

ccaccttcta ttctggtttc tgacttttcc ttcttgatga ccatagatgt gttccagagg    900

caaaagagac acattatccc agatggcaga acatgctttc aaaacatata aaatgtcaaa    960

gttccagatc cttctacatc tttagtcctg tctgaggatg gtagctggct ctctgtagct    1020

gatagatggc tagagttcca tccaaatcct tgaccacgac ttcatggaga tttgaataat    1080

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ttttttttgtg tgtgtctaat aaccaggaaa aaaataaagc ttaggtttta aaaagtttta    1380
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aaaataatct gtttcagaaa ctgtcaaatg taccatattt gtattaagag ttgttgggaa    1440

tttttgtaca atgaatttac atttatttat ggtgacatat ttacgcttgt gatcaaataa    1500

tgatgttaaa ttcttaaatc atatttgcta tgcagctgaa gatgatattt tgatttgtat    1560

tttgggggta cctgtgttga gttgataaac atttccatct tcattaaaac tgcttccaaa    1620

ctaaaaaaaa aaaa                                                      1634
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<211>   1865
<212>   DNA
<213>   Homo sapiens

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tcatggccgc tcagatcgtg agcggccggg gctgctctct ttgcggagga tggcgtctaa    180

tgagcgcagt tgattcgagg aagtactagc cggacatcat gagtggctgt cgggtattca    240

tcgggagact aaatccagcg gccagggaga aggacgtgga aagattcttc aagggatatg    300

gacggataag agatattgat ctgaaaagag gctttggttt tgtggaattt gaggatccaa    360

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tatgagtcat agaacacaaa tctattgacg gaagtcatta gaatggcttg tgatatctga    720

tggcttgaac ttgcccacag ttgaacacaa gtgctgtcat tgcatttctt ccattgtgaa    780

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aagtaacgtt tgcggatgca caccgaccta aattaaatga aggggtggtt gagtttgcct    960

cttatggtga cttaaagaat gctattgaaa aactttctgg aaaggaaata aatgggagaa   1020

aaataaaatt aattgaaggc agcaaaaggc acaggtcaag aagcaggtct cgatcccgga   1080

ccagaagttc ctctaggtct cgtagccgat cccgttcccg tagtcgcaaa tcttacagcc   1140

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ctgtaaataa cttgccctgg gggccttttt ttttaaaaaa caaaaaccac aaaaattccc   1380

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aggggggttg ggttgggctg gatatctttg tagatgtgga ccaccaaggg gttgttgaaa   1500

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aacagctgct ggacagacac attagagcag ctgtttgtta ttgataataa aatattataa   1860

aacta                                                              1865
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<210>   139
<211>   1198
<212>   DNA
<213>   Homo sapiens
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ggaatccct actctactgt gtgtagcctt actgttcttc gctccagatg gcgtgttagc    180

agtccctcag aaacctaagg tctccttgaa ccctccatgg aatagaatat ttaaaggaga    240

gaatgtgact cttacatgta atgggaacaa tttctttgaa gtcagttcca ccaaatggtt    300

ccacaatggc agcctttcag aagagacaaa ttcaagtttg aatattgtga atgccaaatt    360

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aactcagcag caggtcacat ttctcttgaa gattaagaga accaggaaag gcttcagact    840

tctgaacccca catcctaagc caaaccccaa aaacaactga tataattact caagaaatat   900

ttgcaacatt agttttttc cagcatcagc aattgctact caattgtcaa acacagcttg     960

caatatacat agaaacgtct gtgctcaagg atttatagaa atgcttcatt aaactgagtg    1020
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195

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aaactggtta agtggcatgt aatagtaagt gctcaattaa cattggttga ataaatgaga      1080

gaatgaatag attcatttat tagcatttgt aaaagagatg ttcaatttca ataaaataaa      1140

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<210>   140
<211>   453
<212>   DNA
<213>   Homo sapiens


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<223>   n is a, c, g, t or u

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agtaaaatgt taagactgag atttagaatt catttaatga gcccaaattg tattttatgt      120

atgagtaaac tgaggcacag taagactaag ttaactgccc aaactcttcc acctggttag      180

tngggaaaat aacatttcca accctgatct ttctggttcc tgaaccagga tagctggact      240

gtacttcccc atttttgaaa aagctgctaa aaacttggtt acaaacttta agtgacacgt      300

ttctccattt atgtggtggt tatagcaacg gtacaactct ctatttataa attaaacctt      360

gagaaacacc catctccact tcctagacaa accaatgaac attagtctta tttttctccc      420

                                                                      453
agaaaatgtc agagggtgtt acagtggcta cac
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<211>   222
<212>   DNA
<213>   Homo sapiens


<220>
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                                                                      180
gttcaccatc acaactgcat taccaaaagg ggattttttnc aaacgcggag ttgaccaaaa

                                                                      222
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<213> Homo sapiens

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catgatggag cagaggaaac gagttactca gatcctgcaa agtcctgcct ttcgggaaga     240

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attacagcag attgcagatt acatcatggc caattctttc tcgggttttt cttcacctcc     360

tctcagtctt ggcatggtca cacctatcaa tgaccttcct ggtgcagata catcctcata     420

tgtgaaggga gaaaaactta ctcgctgtaa acttgccagc ctgtacagac ttgtagactt     480

gtttggatgg gcacacctgg caaataccta tatctcagta agaataagta aggagcaaga     540

ccacattata ataattccca gaggcctatc tttttctgaa gctacagcct ccaatttggt     600

gaaagtcaat ataataggag aagtggttga ccagggaagt accaatttga aaattgacca     660

tacaggattc agtccccatg ctgcaatcta ttcaacacgt cctgatgtta agtgtgtcat     720

acacatccat acccttgcaa cagcagctgt atcctccatg aaatgtggga tccttccaat     780

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gataatcata ttataatttt ttatcatgat tattgactat atttttggag tcccattgtt    2580

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cagtataaaa tttcctcacc tgaagtaact ttgtttgcca aaaaagttgt tttaataaac    2760

tataattttt gaaaacttcc ttttttatta gtttagaaag cccccttattt ttcaacaaag    2820

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<213>   Homo sapiens

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gaaagggcag tttcttcaat gggggggtag ccctcaataa ttatatataa aatggctgcc    180

aaaccagtaa gactgctttt atacatccat cattttcagg attgggggaa accggggcat    240
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attttcccca ataactttg cctccttggg cacaaggccc aattcgctca catttactta     300

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<211>   876
<212>   DNA
<213>   Homo sapiens
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tgtgggagcc ctgctcatgg gtctccacat gagccagaaa cacacggaga tggttctgga    240

gatgagcatt ggggcgccgg aagcccagca acgcctggcc ctgagtgagc acctggttac    300

cactgccacc ttctccatcg gctccactgg cctcgtggtg tatgactacc agcagctgct    360

gatcgcctac aagccagccc ctggcacctg ctgctacatc atgaagatag ctccagagag    420

catccccagt cttgaggctc tcaatagaaa agtccacaac ttccagatgg aatgctctct    480

gcaggccaag cccgcagtgc ctacgtctaa gctgggccag gcagaggggc gagatgcagg    540

ctcagcaccc tccggagggg acccggcctt cctgggcatg gccgtgaaca ccctgtgtgg    600

cgaggtgccg ctctactaca tctaggacgc ctccgggtca gtggaagccc aacgggaaa     660

ggaaacgccc cgggcaaagg gtcttttgca gcttttgcag acgggcaaga agctgcttct    720

gcccacaccg cagggacaaa ccctggagaa atgggagctt ggggagagga tgggagtggg    780

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gaactggaac gctccaccct tcaggacagt gatgaatatt ccaacccagc tcctcttccc    180

ctggatcagc attccagaaa ggagactaac cttgatgaga cttcggagat cctttctatt    240

caggataaca caagtccctt gccggcgcag ctcgtgtata ctaccaatat ccaggagctc    300

aatgtctaca gtgaagccca agagccaaag gaatcaccac caccttctaa aacgtcagca    360

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tcatggcatc ctgagcattt tgtctgtact cattgcaaag aagagattgg ctccagtccc    660

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cgctgtgctt actgcgctgc tcccatcctg gataaagtgc tgacagcaat gaaccagacc    780

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ttcagtgtat ttttgttttt caagaggaag tagattttaa ctggacaact ttgagtactg   1800

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                                                                    1875
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gcagaccggg ccgttccagt gctgatcatt ggcattctgg tgttcctacc cggatttttac    120
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cacctgcgca tcgcttacta tgcatccaaa ggctaccgtg gttactccta tgatgacatt      180

ccagactttg atgactagca cccaccccat agctgaggag gagtcacagt ggaactgtcc      240

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atgtttaaga aaataatggc cagattttt gggtccttcc caaagatgtt aagtgaacct       360

acagttagct aattaggaca agctctattt ttcatccctg ggccctgaca agttttccca      420

caggaatatg tatcatggaa gaatagaggt tattctgtaa tggaaaagtg ttgcctgcca      480

ccaccctctg tagagctgag catttctttt aaatagtctt cattgccaat ttgttcttgt      540

agcaaatgga acaatgtggt atggctaatt tcttattatt aagtaattta ttttaaaaat      600

atctgagtat attatcctgt acacttatcc ctaccttcat gttccagtgg aagaccttag      660

taaaatcaaa gatcagtgag ttcatctgta atatttttt tacttgcttt cttactgaca       720

gcaaccagga attttttta tcctgcagag caagttttca aaatgtaaat acttcctctg       780

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ttttggctgt ttcctaatga aacatgtagt ggttattatt tagagtttat agccgtattg      960

ctagcacctt gtagtatgtc atcattctgc tcatgattcc aaggatcagc ctggatgcct     1020

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aattacactt cgactctcaa agcaatacca ggatagctgt tgtttcagag aaaggatcgt      180

gtgctgcatc tcctccttgg cgcctcattg ctgtaatttt gggaatccta tgcttggtaa      240

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tgctctcata ggaaagtttt ctgcttttta aatacaaaaa taccataaaa atacataaaa    1980

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203

2354

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<213> Homo sapiens

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gcacgctttt ctatatactt cgttccccgc caaccgcaac cattgacgcc atgtcgggtt   180

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aagttggata tttctctaca ttcctgaaac aatttttagg ttttttttgt actagaaaat   2220

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gctgagagaa tcgcccagcc ctccgcagcc gcccagcgag aaccggagct gcggccccgc   180

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atcactgtcg tccgctggga gggaccaacc ttgaaatggg gttggtggag agagggatag   420

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gccaaatata agatgataaa ctgaagaata aaaacagctg acaaatactg tatagaaaag   660

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ttgtagctga atttctgctg gcatttctat cagtggggaa agccctcaca gctccatagg   780

taattttgt taggggagga agaagtgttg ttctgtcacc caccccagg caaagagtcg     840
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cctcagcctc ccaagtagct gggattacag gcgcacgcca ccgcacccgg gtaattttgt   1140

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agtaccatcc actttgtatt gtccccgtgg taatgagtga gttcttaaga aatctggtca   2100

ttgaaaaata tgtggcacct cctccctctc tcttttgctc ctgccccggc tatatgatgc   2160

aatttgtctt cagccatgat tgtaagtttc ccgaggcctc cccagaagct gagcagatgc   2220

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tttcaaggcc ccgcgggcat ttctcgccgg ccctgcggag agagttcttc actaccacaa     480

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atgctatcag gaaagacatg gtcatcctag agaaaagtga atttgcaaat ctgagagcag     780

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ctcaaaccaa aagtattatt tcagagacca gtaataaaat tgacgctgaa attgcttcct     1020

taaaaacact gatggaatct aacaaacttg agacaattcg ttatcttgca gcttcggtgt     1080

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tgtaaatcat acaggatttt gtgggtattg gttgaatatt tgtaaaccat tccctagcct     1500

acatatttat tactgaatta actttcctga taaccattgc ataattacat ttttctataa     1560
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<212>   DNA
<213>   Homo sapiens

<400>   152
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tcaccccggg aaggcgacag tgcctaagac agaaattcgg gaaaaactag ccaaaatgta    180

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caaaaagccg aaggagtaaa ggtgctgcaa tgatgttagc tgtggccact gtggattttt    480

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tcaaggccaa agcagtcaag ctgtggcaaa tttcagacaa agggaatcaa agttgtggga    180

aaatggaagg aagtgaagat tgacccaaat atgtttgcag atggacagat ggatgacttg    240

gtgtgctttg aggaattgac agattaccag ttggtctccc ctgccaagaa tccctccagt    300

ctcttctcaa aggaagcacc caagagaaag gcacaagctg tttcagaaga agaggaggag    360

gaggagggaa agtctagctc accaaagaaa aagatcaagt tgaagaaaag taaaaatgta    420

gcaactgaag gaaccagtac ccagaaagaa tttgaagtga agatcctga gctggaggcc     480

cagggagatg acatggtttg tgatgatccg gaggctgggg agatgacatc agaaaacctg    540

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aaagcagatg tgtcagcttg gaaggacctg tttgttccca ggccggttct ccgagcactc    720

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gccacactca ccctggtgca tcaggctcct gctcgaatcc ttcataagaa gcacaccaag    1680.

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ggccgcagct tagtgtttgc caacagtatc tcctgcatca aacgcctctc tgggctcctc    1920

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gctcggggtc tggatattcc taaagtccag catgtcatcc attaccaggt cccacgtacc    2100

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gacctcatgc agatttgcat tgttttggag taagaattca atgcagcagc ttaattttc     2880

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<212>   DNA
<213>   Homo sapiens

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ccttaaagtg aaataatttt ttgcaaaggg gtttcctcga tttggagctt ttttttctt     180

ccaccgtcat ttctaactct taaaaccaac tcagttccat catggtgatg ttcaagaaga    240

tcaagtcttt tgaggtggtc tttaacgacc ctgaaaaggt gtacggcagt ggcgagaggg    300

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cggagtacct gcgctatgaa gacacgcttc ttctggaaga ccagccaaca ggtgagaatg    480

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ccaaggtgct gactcagaag ttgtcatcag tcagaggcaa tcatattatc tcagggacat    960

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tgttaggaga tagggatatt ggcccctcac tgcagctgcc agcacttggt cagtcactct    2580

cagccatagc actttgttca ctgtcctgtg tcagagcact gagctccacc cttttctgag    2640

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tcatccaggc cgagttctat ctgaatcctg accaatcagg cgagtttatg tttgactttg     180

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agtggctcat ttggatgaga actaccctct atttttaata ttaaaactac atccaactca    180

tcatttagcc tttggttgta cagttgtgta atgggctatg gactgttaca caccttacca    240

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tggaaattaa gccatttatt ttaatttgct attttttttca atgttctagg tatctttaaa    840

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214

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215

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218

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219

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<400> 165

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ctgaaattaa agcacctgtg tgagaatagg acatgtggcc ttaggcttgc ttggaggaga         240
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<213> Homo sapiens

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aaggttaccc agttggtaat tcatttgcac acctgttagc aagaaacaga agttgaagga   180

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taagtttgca ttttgacttt ttttgtaagg atgtatgttg tgtgtttaac ctttattaac    1920

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cttttactgg acccattttc attgtgatgg agtcatatcc catgaagtgg aaacaaaagt    240

ttctcactcc aactccagag ctaaaggtag cttagtgaaa tcagcagtga tttgcgatgt    300

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cagttctgga aaatagcaca agttatgaag aagccaagaa tttattgacc aagaccaaga    840

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cacgagacag aaaggaatca ttggatgtat atgaactcga tgctaagcag ggtagatggt    960

atgtggtaca aacaaattat gaccgttgga aacatccctt cttccttgat gatcgcagaa   1020·

cgcctgcaaa gatgtgtctg aaccgcacca gccaagagaa tatctcattt gaaaccatgt   1080

atgatgtcct gtcaacaaaa cctgtcctca caagctgac cgtatacaca accttgatag    1140

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229

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231

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234

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236

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237

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cccaagtgtt cagcaaaatg catcaaaact gaagggtctt tctttctgaa atgacttggg    240

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caagaggcct tggcagctcc tagccataga gcttcctttc cagaaccctt ccactgccca     360
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244

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aaggaataaa caagttgaat agagaaaaca ctgattgata ataggcattt tagtggtctt     240

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tcaacaagtt cacagaggaa cttaagaagt atggagtgac gactttggtt cgagtttgtg    480

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247

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252

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<213>  Homo sapiens

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atcacccttt atttggagaa ggaacgagag aaggaaatta gtgatgatga ggcagaggaa     780
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gaagaccact tggcagtcaa gcactttct gtagaaggtc agttggaatt cagggcattg   1080

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gttgtgtatt gtggtttatt ttattttctt cattttgttc tgaaattaaa gtatgcaaaa   2520

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<212>    DNA
<213>    Homo sapiens

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ctttgcctta aatggtagaa tatttagaaa tttgcacaaa attaaaaaaa taaacattgt      180

cttggagggt taaaaaatag aaaggtgtat gtgtatagat tcacatacac atatgtatat      240

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gttgccttaa ggtgtttgct agttgtgtac atagtgtggt taatcattag ctacactgct      360

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<213>    Homo sapiens

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cgcccgcgcc agcccccgag aacgcgcgac caggcaccca gtccggtcac cgcagcggag      180

agctcgccgc tcgctgcagc gaggcccgga gcggccccgc agggaccctc cccagaccgc      240

ctgggccgcc cggatgtgca ctaaaatgga acagcccttc taccacgacg actcatacac      300

agctacggga tacggccggg cccctggtgg cctctctcta cacgactaca aactcctgaa      360

accgagcctg gcggtcaacc tggccgaccc ctaccggagt ctcaaagcgc ctggggctcg      420

cggacccggc ccagagggcg gcggtggcgg cagctacttt tctggtcagg gctcggacac      480

cggcgcgtct ctcaagctcg cctcttcgga gctggaacgc ctgattgtcc ccaacagcaa      540

cggcgtgatc acgacgacgc ctacaccccc gggacagtac ttttaccccc gcggggggtgg      600

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cgtgtccctg ggcgctaccg gggggccccc ggctgggccc ggggggcgtct acgccggccc      780

ggagccacct cccgtttaca ccaacctcag cagctactcc ccagcctctg cgtcctcggg      840

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cccacacgcg ccgcccttcg ccggtggcca cccggcgcag ctgggcttgg ccgcggcgc       960

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255

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gcggggacat tgggaagggg accccgccc cctgccctcc cctctctgca ccgtactgtg    1680

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<212>  DNA
<213>  Homo sapiens

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tccaactggc atttctcagg gtgatcaggg tcctgtggtg acagccggcc cacagccatc   180

agcagcttgt cttgggaggg ccaggttgca ggtct                             215
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<211>  524
<212>  DNA
<213>  Homo sapiens

<400>  195
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gcttgctggg ggaccggcag gcatccaccc cttggggcag ccgggcaggg gccgcgtggg    180

ggcaaaccac caggcccaaa gcaggagctc aggggcatac cccacacctc cacctgagca   240

cccccttttc cggggctgga aacaaagggg ggggggggc taaaactacc cccatgccgg     300

caacagggga ggggggcaaa ccttacaatt ttattaacac aaagcacccc tccagggccc   360

cggcccacag ggcgatctag ggagaaagct ctcctaaaca ctttgggggc caaaccccccg   420
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<213>   Homo sapiens
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gctaggctgc catcgggccg gtgcagatac ggggttgctc ttttgctcat aagaggggct    180

tcgctggcag tctgaacggc aagcttgagt caggaccctt aattaagatc ctcaattggc    240

tggagggcag atctcgcgag tagggcaacg cggtaaaaat attgcttcgg tgggtgacgc    300

ggtacagctg cccaagggcg ttcgtaacgg gaatgccgaa gcgtgggaaa aagggagcgg    360

tggcggaaga cggggatgag ctcaggacag agccagaggc caagaagagt aagacggccg    420

caaagaaaaa tgacaaagag gcagcaggag agggcccagc cctgtatgag dacccccag     480

atcagaaaac ctcacccagt ggcaaacctg ccacactcaa gatctgctct tggaatgtgg    540

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agctgcctgg actctctcat caatactggt cagctccttc ggacaaggaa gggtacagtg    720

gcgtgggcct gctttcccgc cagtgcccac tcaaagtttc ttacggcata ggcgatgagg    780

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ataagccccc tcaactacca ttccttcttt aaacactctt cagagaaatc tgcattctat    1380

ttctcatgta taaaactagg aatcctccaa ccaggctcct gtgatagagt tcttttaagc    1440

ccaagatttt ttatttgagg gtttttgtt ttttaaaaaa aaattgaaca aagactacta      1500
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aaaaaaaaaa aaaa   1574

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<213> Homo sapiens

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tgacaatgat gtcactgttt ggagccccca gggcaggatt catcaaattg aatatgcaat   180

ggaagctgtt aaacaaggtt cagccacagt tggtctgaaa tcaaaaactc atgcagtttt   240

ggttgcattg aaaagggcgc aatcagagct tgcagctcat cagaaaaaaa ttctccatgt   300

tgacaaccat attggtatct caattgcggg gcttactgct gatgctagac tgttatgtaa   360

ttttatgcgt caggagtgtt tggattccag atttgtattc gatagaccac tgcctgtgtc   420

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aagccagtct atatatgtat tatcaaatat gtaagaatac aggcaccaca tactgatgac   960

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tctttgaaag ggtctgtata atcattttct agaaagtatg ggtatctata ctaatgtttt   1140

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aaagtggaag cgaagccgaa aaaggcagca gcgaaggata aatcttcaga caaaaaagtg   300

caaacaaaag ggaaaagggg agcaaaggga aaacaggccg aagtggctaa ccaagaaact   360

aaagaagact tacctgcgga aaacggggaa acgaagactg aggagagtcc agcctctgat   420

gaagcaggag agaaagaagc caagtctgat taataaccat ataccatgtc ttatcagtgg   480

tccctgtctc ccttcttgta caatccagag gaatattttt atcaactatt ttgtaatgca   540

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tttaagtgta aatgcttttt ttaagaggtg aaatcatttg, ctggttgttt attttttggt   660

acaaccagaa aatagtgtgg gatattgaat tatgggaggc tctgactgtc tcgggtgtca   720

gcttaacatt ccacagatgg ggggttagtt tttatatcct ataatacaaa gcatattaaa   780

tggcaatatg gagtcagtcc tgcatttaat gtcttgaaca tttttaaatta cttctattac   840

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cctcttaagg aaaatttgct tccaaatttt aagctggaaa gtcactggaa taactttaaa  1140

aaagaattac aatacatggc tttttagaat ttcgttacgt atgttaagat ttgtgtacaa  1200

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<213>   Homo sapiens

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tgaggctcaa ggtgcattgg ccaacatagc tgtggacaaa gccaacctgg aaatcatgac   360
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259

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aaagcgctcc aactatactc cgatcaccaa tgtacctcca gaggtaactg tgctcacgaa        420

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tgggtaacct gtttcatcgt cctcgggcta ccgtcatggt gatggtgaag ggagtgaaca        360

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cttacaatat ttggaacatg gatcctggat atgatagcat catttatagg atgacaaacc  1140

agaagattcg aatggattga atgttacctg tgccagaatt agaaaagggg gttggaaatt  1200

ggctgttttg ttaaaatata tcttttagtg tgctttaaag tagatagtat actttacatt  1260

tataaaaaaa aatcaaattt tgttctttat tttgtgtgtg cctgtgatgt ttttctagag  1320

tgaattatag tattgacgtg aatcccactg tggtatagat tccataatat gcttgaatat  1380

tatgatatag ccatttaata acattgattt cattctgttt aatggatttg gaaatatgca  1440

ctgaaagaaa tgtaaaacat ttagaatagc tcgtgttatg gaaaaaagtg cactgaattt  1500

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261

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tctctctaca ctgtggtgca cttaacttgt ggaattttta tactaaaaat gtagaataaa   1860
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aaaacaaata ataaaaaggg aatagctcct aaaaaaaatt ttatggaaaa agggacccgg     240

gcggggggata tagggtccaa cccccacccc aaaggggggg attttctat gtaccccgtg     300

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cagagactac agcagctctt caaggggagc cagtttgcca ttcgctgggg ctttatccct   180

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268

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270

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273

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275

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277

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282

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ggtggattct gcagggtgt ggggccgtgg acaggctgag ctcaaggaa ggtggtcctc     2100

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cctcctcttg gccacagagg gcagcatcgc ccgccccttc ccccaaatgc tgcttgcagc   2220

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284

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<213> Homo sapiens

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285

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<213>   Homo sapiens

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287

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aggcccaggt tccactgcta acttgctgca gcttactggg tgatctgtaa ataaaaaggg       240

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ggtaaaggcg ctccgaggaa gggcgagcgc gcagcctctg ggagactaca cctcccaggc       360

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acatcacaga ggtgaccaag cgccccctga cggctggcac actcttcaag aactccatgg       180

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<213>   Homo sapiens
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292

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atcaaaactc gctcggtgga gcagacgcta ctcccgctgg tttctcagat caccacgctt    240

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gaaacaattg cagcacttac agacataacc aacttgaacc atctggaatc tgatgggcag    480

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ggtgctgctg gctcagttct cggctttccc cgtgaatggc gctgatctcc acgaggaact    480

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aattagccat agggatgggg gtgggaggat ggcttgagcg caggagatcg aggctgcagc      180

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aaaaagtgga tgtaagaaga aaaaaatcaa atgaagatta aattccaaac tcctatgcca      300
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ctacacgttc aaattaacct ctcctgttct tttccttatg ttatagggtg atcgcacaac      240

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tggttctggt cctgttcaaa tacaagcggc tcaggtccat gactgatgtg tacctgctca      420

accttgccat ctcggatctg ctcttcgtgt tttccctccc tttttggggc tactatgcag      480

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298

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<213>  Homo sapiens

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tcccccgggg tcctgcaagg ctggactgtg atcttcaatc atcctgccca tctctggtac     1920

ccctatatca ctccttttt tcaagaatac aatacgttgt tgttaactat agtcaccatg     1980

ctgtacaaga tccctgaact tatgcctcct aactgaaatt ttgtattctt tgacacatct     2040
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300

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caggcgtgtg tggtagagtt cgggtttttt agcacgaagt gggtggctgg agtttgcttg     180

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gttctgtatc cagagggcat tcagactaaa atctacaacc ttctcattca gacacacgtt     660

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tgagcacttc cttccttcct agcaccacca ggctcttgta ttatccctgt ccctgccctg     180

gaatcgactc ctcctccaga gagccctggt ttctttgtta gaggatggta tatagaatcc     240

aacatgcaga cacttggtgg acttatgtta ctggggtttg ttatactagg gtttcagtgg     300
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gcaaaatata tctaagtggg atcaaatgag actgtaaata gctttacatc agttcaggtc    480

agttatgttg ctaaattact tttggcatta agtttaggga aaaaaaatgg gtttgggatt    540

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tgtgcatgtg ggttagggaa gccagggcac cacctcaggt cctttagaac tgtcaggctg    720·

aagccatagc gattggaatt ccaggaatct ctcccattgt ggtggccggt gcggggtgca    780

cacacaccac gggcgacact ctctggagat tgagaattcc ccttgaaaaa aaaagaattt    840

tccgcgggaa aggcggttct gaaacacaaa agagttaaca gacaccaaaa cggagtcacc    900

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tctttccact gctatgacgg ttacactctc cggggctctg ccaatcgcac ctgccaagtc   180

aatggccgat ggagtgggca gacagcgatc tgtgacaacg gagcggggta ctgctccaac   240

ccgggcatcc ccattggcac aaggaaggtg ggcagccagt accgccttga gnnnnnnnnn   300

nnnnnnnnnn nnnnnnnnnn nnnnaccctg .cgtggctccc agcggcgaac gtgtcaggaa   360

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caagaggtgg ccgaagcttt cctgtcttcc ctgacagaga ccatagaagg agtcgatgct   480

gaggatgggn nnnnnnnnnn ngaacaacag aagcggaaga tcgtcctgga cccttcaggc   540

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nnnnnntaca ttggcaagga tcgcaaaaac ccaagggagg attatctgga tgtctatgtg   1020

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aatgagcaac atgtgttcaa agtcaaggat atggaaaacc tggaagatgt tttctaccaa   1140

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ttcactgtgg atgacaagga acactcaatc aaggtcagcg taggagggga gaagcgggac   1380

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agaagtcgtt tcattcaagt tggtgtaatc agctggggag tagtggatgt ctgcaaaaac    1920

cagaagcggc aaaagcaggt acccgctcac gcccgagact ttcacatcaa cctctttcaa    1980

gtgnnnnnnn nnctgaagga gaaactccaa gatgaggatt tgggtttct ataagggggtt     2040

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306

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gtccccaagg aaaccatgga ggagcactgc aagcttgagc accagcaggt tgggtgtacg       180

atgtgtcagc agagcatgca gaagtcctcg ctggagtttc ataaggccaa tgagtgccag       240

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caccgcatgc tcgcccagca cagagatgtc tgtcggagtg aacaggccca gctcgggaaa       420

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ccagaaaata agtatttcca ccatatgggt aaatgttgtc cagactcaga gtttaagaaa       540

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aatcaaactt ccacgatgga gaaagatgtt cgtccaaaga caagaagtat aaacagattt       660

cctcttcatt ctgaaagttc atcaaagaaa gcaccaagaa gcaaaaacaa aaccttggat       720

ccacttttga tgtcagagcc caagcccagg accagctccc ctagaggaga taaagcagcc       780
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307

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cagctagatt tggaaaagga aaggtactac aaattcaaaa gatttcactt ttaacactgg    960

cattcctgcc tacttgctgt ggtggtcttg tgaaaggtga tgggtttat tcgttgggct    1020

ttaaaagaaa aggtttggca gaactaaaaa caaaactcac gtatcatctc aatagataca    1080

gaaaaggctt ttgataaaat tcaacttgac ttcatgttaa aaccctcaa caaaccaggc    1140

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<213> Homo sapiens

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agatcactgc atggagatca caataaggaa ctccccgtat agaagagaag actcaatgga    300

agacagagga gaagaagatg attctttggc catcaaacca ccccagcaaa tgtcttggaa    360

agaaaaagtt catcacagaa aagatgaaaa gaggaaagaa aaatgtaggc atcatagcca    420

ttcagcagaa ggggggaagc atgctagagt gaaagaaaga gagcacgaac gtcggaaacg    480

acatcgagaa gaacaggata aagctcgccg ggaatgggaa agacagaaga gaagggaaat    540

ggcaagggag cattccagga gagaaaggga ccgcttggag cagttagaaa ggaagcggga    600

gcgggagcgc aagatgcggg agcagcagaa ggagcagcgg gagcagaagg agcgcgagcg    660

gcgggcggag gagcggcgca aggagcggga ggcccgcagg gaagtgtctg cacatcaccg    720

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tcggccgccg cgggagcggt tcgagttggg agacggccgg aagccagtaa aagaagagaa    840

aatggaagaa agggacctgc tgtccgactt acaggacatc agcgacagcg agaggaagac    900

cagctcggcc gagtcctcgt cagcagaatc aggctcaggt tctgaggaag aagaggagga    960

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tccagagtca cggttcgacc gagattccgg ggagagtgaa gaagcagagg aagaagtggg    1200

tgagggaacg ccgcagagca gcgccctgac agagggcgac tatgtgcccg actcccctgc    1260

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<213> Homo sapiens

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311

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<213>  Homo sapiens

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atttctgtat tttttatatg tcaaagaata tgtctcttgt atgtacatat aaaaataaat    2040

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<211>   688
<212>   DNA
<213>   Homo sapiens


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<222>   (678)..(678)
<223>   n is a, c, g, t or u

<400>   243
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<213>   Homo sapiens

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314

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315

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<213> Homo sapiens

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<223> n is a, c, g, t or u

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<221> misc_feature
<222> (137)..(137)
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<212> DNA
<213> Homo sapiens

<400> 246
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tcaggccccg ccgggcccga aaggcgacgg tttccggtta gtggaatcac ggtcccagtc    180

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322

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taccctctgg atctgtacaa cgacagcgcc tactatgctc tgaccaagtt taaaaagcag    2100

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gagttcacag ctgagcagtg tttcggcgat ggcttgaact gggctggttg ctccatcatt    3540

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atgaagtccg tggagacaga cagttccact gtggagcatg tgcgctgctt ccagccaccc    3780

atccaccagt ccttggccac cacttgctaa gcagaagatc ctgcagaccc ttatctggag    3840

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<213>  Homo sapiens

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cggagattgt ggggggccgg cgagcgcggc cccacgcgtg gcccttcatg gtgtccctgc    180

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ccatcaacgc caacgtgcag gtggcccagc tgccggctca gggacgccgc ctgggcaacg    480

gggtgcagtg cctggccatg ggctggggcc ttctgggcag gaaccgtggg atcgccagcg    540

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gcaacgggct aatccacgga attgcctcct tcgtccgggg aggctgcgcc tcagggctct    720

accccgatgc ctttgccccg gtggcacagt ttgtaaactg gatcgactct atcatccaac    780

gctccgagga caacccctgt ccccacccc gggacccgga cccggccagc aggacccact     840

gagaagggct gcccgggtca cctcagctgc ccacacccac actctccagc atctggcaca    900

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<212>  DNA
<213>  Homo sapiens
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tgtagaaatc tagtcacttg agtatcatcc ttcacaaagt tctttctatt ttttctactg     180

tacaaagttt tctgttgtca aatagcaaga gatctctgtt ttctacttgg aatgggcctg     240

gagaagggag acagcacccg ctccctccac cccttgtccc tgagcacagc atggtgacct     300

gccaagccag agggtgacct ggacactcat aactcaatgc agggccaact gtagcctctg     360

ggcggtgtcc ctgagtgagg gcaaagttgt aataacactt gttctctcct tttctccaat     420

ttgctccca                                                            429


<210>  256
<211>  2058
<212>  DNA
<213>  Homo sapiens

<400>  256
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gaacaatgga agtgacaaca agattgacat ggaatgatga aaatcatctg cgcaactgct     180

tggaaatgtt tctttgagtc ttctctataa gtctagtgtt catggaggta gcattgaaga     240

tatggttgaa agatgcagcc gtcagggatg tactataaca atggcttaca ttgattacaa     300

tatgattgta gcctttatgc ttggaaatta tattaattta cgtgaaagtt ctacagagcc     360

aaatgattcc ctatggtttt cacttcaaaa gaaaaatgac accactgaaa tagaaacttt     420

actcttaaat acagcaccaa aaattattga tgagcaactg gtgtgtcgtt atcgaaaac      480

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aggaattaag gataacctag acgacataaa gaggataatt aaagccagag agcacagaaa     660

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cgagcggtat aggatatatt ctgttaaaga tggaaaaaat ggaaaatctc tgccatttat     900

gttgtgtgac actatggggc tagatggggc agaaggagca ggactgtgca tggatgacat     960

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tacacctgag cattctactt ttatcacctc tccatctctg aaggacagga ttcactgtgt    1080
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ttctcaaagc cgggtcatga atgtccataa aatgctaggc attcctattt ccaatatttt  1320

gatggttgga aattatgctt cagatttgga actggacccc atgaaggata ttctcatcct  1380

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gttcaaaggc caaaacctga gaagcggtgg gctaagatag gtcctactgc aaaccacccc  1680

tccatatttc cgtaccattt acaattcagt ttctgtgaca tcttttttaaa ccactggagg  1740

aaaaatgaga tattctctaa tttattcttc tataacactc tatatagagc tatgtgagta  1800

ctaatcacat tgaataatag ttataaaatt attgtataga catctgcttc ttaaacagat  1860

tgtgagttct ttgagaaaca gcgtggattt tacttatctg tgtattcaca gagcttagca  1920

cagtgcctgg taatgagcaa gcatacttgc cattactttt ccttcccact ctctccaaca  1980

tcacattcac tttaaatttt tctgtatata gaaaggaaaa ctagcctggg caacatgatg  2040

aaaccccatc tccactgc                                                 2058
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<210>  257
<211>  690
<212>  DNA
<213>  Homo sapiens

<400>  257
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ccaccagctg cctccttctc ttggccctct tggtacaggg aggagcagct gcgcccatca  180

gctcccactg caggcttgac aagtccaact tccagcagcc ctatatcacc aaccgcacct  240

tcatgctggc taaggaggct agcttggctg ataacaacac agacgttcgt ctcattgggg  300

agaaactgtt ccacggagtc agtatgagtg agcgctgcta tctgatgaag caggtgctga  360

acttcacccct tgaagaagtg ctgttccctc aatctgatag gttccagcct tatatgcagg  420

aggtggtgcc cttcctggcc aggctcagca acaggctaag cacatgtcat attgaaggtg  480

atgacctgca tatccagagg aatgtgcaaa agctgaagga cacagtgaaa aagcttggag  540

agagtggaga gatcaaagca attggagaac tggatttgct gtttatgtct ctgagaaatg  600
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<211>  2932
<212>  DNA
<213>  Homo sapiens
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aaactttcaa gttagatttt attgctttga tgagtggctt taaatatgaa aagtcttgcc       180

tgtgaagggc aatccttttc ccgtggactg ggatctatag aaatacagaa atgtgcccag       240

gggttcatct ccctaataac catcattcac atttctcaac ctccctaata accagccacc       300

atgtgagaag gatccacagt tactgtttat gactataatt aactagtacc tgggactggt       360

cagtggagtt ggttgcaacc tgatgctaag gatgtcaaag ttgtctcggc ctctgttccc       420

agccagtaag taattccctg gcctcgggcc atacccccta atcttggtca gctgattatg       480

acaggcagac agcacagtaa ataacactat atattaagaa aacccaaagc atatgtatca       540

atggtatata cccaacagca tcctaggaat ggagagtctg tagcaagggc ctccaatgtg       600

aaggtcaaca cagtcactgt gatgcgtgta tttccatttt gtaaagcatg atctctggtg       660

gtcatttta tcttcctaac ttattggaaa agtctcctgt tttgggggcc cgcccctggt       720

cacagccaga ctgactcagt ttccctggga ggtcccgctc gagcccgtcc ttcccctccc       780

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ctctgaaggt gtgcctgaac cagtgccagc ctgccctgtc tgcagcatcg gcctgatggg       960

gtggtgactg atccctcagg gctccggagc catgtggccc aacggcagtt ccctggggcc      1020

ctgtttccgg cccacaaaca ttaccctgga ggagagacgg ctgatcgcct cgccctggtt      1080

cgccgcctcc ttctgcgtgg tgggcctggc ctccaacctg ctggccctga gcgtgctggc      1140

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gattcagggg ctgggggtgc tggatggaca gtgggcatca gcagcagggt tttgggttga     2160

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<211> 1177
<212> DNA
<213> Homo sapiens

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tgaccgctgt ccatccagaa ccacccactg catgcagaga aaaacagtac ctaataaaca     180
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330

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cacactgcca ccagcacaaa tactgcgacc ccaacctagg gcttcgggtc cagcagaagg      360

gcacctcaga aacagacacc atctgcacct gtgaagaagg ctggcactgt acgagtgagg      420

cctgtgagag ctgtgtcctg caccgctcat gctcgcccgg ctttggggtc aagcagattg      480

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<211> 436
<212> DNA
<213> Homo sapiens

<400> 260
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aaggggggga cccggccccc acggggggggg cccaacacgg gggccttact tgaggacagt      240

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cggttttgaa aaaagg                                                      436
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<210> 261
<211> 878
<212> DNA

<213>   Homo sapiens

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<222>   (1)..(1)
<223>   n is a, c, g, t or u

<220>
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<222>   (579)..(579)
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ttcttaatca ggtcactagt tcyaaatatg gtggcctgga ggtcccatag aaaaagcaaa   240

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acaatactga gtatcagacg acgcargkga kaacaaaggg ccggggggtgg gggsagagaa   360

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ttaaaaagtg tataaaaata acacagttaa tattcaaaac ggaactccas atacagaata   480

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<212>   DNA
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tcggtactat aagaagacat gcacacaaag atgtttgtta tgattattga agtgttaaat   240

ggaagaaaaa tgttacccaa gtcttctcca aaaagaatgg tagatatttc cttgaaatgc   300

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gagcttctta taagatggca aatgtgcctg gcaagagcat ttgtattttg tcaggtggag    480

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gaattatgct attagtttaa taatatctga ggcagtaaaa tagtacctga ggaatggtgc    600

ctcattctgc ccccttgcca gttgtctcct caatcctgag cttcctgctg aggttaattc    660

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gctgcatcaa tggagcacat acagggagct tggaagacga tcagcaatgg ttttggattc     180

aaagatgccg tgtttgatgg ctccagctgc atctctccta caatagttca gcagtttggc     240

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atgtctccga gcttactcac atagcatatt ggtatatcaa aatgaaatgc aaggaaccaa    180

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gacccactgg agaggacaga aaatgaagca gtgttttatc atgtgtattt cagcaggtct    300

tcttgaaatt taactaaaaa tatgactgct ctctcttcag agaactgctc ttttcagtac    360

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344

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caggcagccc gggtccccgc ctcccggatc caggcgtccg ggatctgcgc caccagaacc     240

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cgtcccaccc agagaaactc tcgtattccc agctcctagg gccaaggaac ccgggcgctc     360

cgaactccca gctttcggac atctggcaca cggggcagag cagagaagcc tcagcgccca     420

gcctggggaa tttaaacact ccagcttcca agagccaagg aacttcagtg ctgtgaactc     480

acaactctaa ggagccctcc aaagttccag tctccaggtg ctgttactca actcagtcct     540

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345

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aagaggggct ggggaagatt acatttttt tcctttggaa actgaatgcc ataatctcga    180

tcaaaccgat ccagaatacc gaagatcggc acaggacaga aaagcgagtc gcaggaggaa    240

gggagatgca gccgcacagg ggatgattac cctcctagga ccgcggtggc taagtcattg    300
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caggaacggg gctgtgttct ctgctgggac aaaacaggag ctcatctctt tggggtcaca   360

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gaacggagca gtgatgtggt tttcaaggca gcagtggcag aggtcccatg taatggtgca   180

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gcatttttgg gggctccgta gtcctgacct ccacgcctgt gacttgtgag ccatttttatt   300

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agccactatt taattgtaac cactgtcaac cttttttcctt atttacttca gatccttttg   420

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agng   484

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<212> DNA
<213> Homo sapiens

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agctcggcgt ggcggcgtta agcggatctc tggcctcatt tacgaggaga cccgcggtgt   180

gctgaaggtg ttcctggaga atgtgattcg ggacgcagtc acctacaccg agcacgccaa   240

gcgcaagacc gtcacagcca tggatgtggt gtacgcgctc aagcgccagg ggcgcaccct   300

gtacggcttc ggaggctagg ccgccgctcc agctttgcac gtttcgatcc caaaggccct   360

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gtacatattc aatctgctga gaaatgtaga caataactac tataagaatc ctaatgctac    840

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tttaaccaca aatgaaatag atgacttctt agaaaaacat aaaagcagag ctgtctcaaa    360

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cctctgtgtc tggcgtgtct cattgagcct ggagtgtctc attgagcctg gcgtcctgaa    180

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tgaacaccct gagagtcgag gacacggcta tatattattg cgcgagagac cgagggaaat   180

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catatttgat atatcaagtg tcttcacaac tgtgcttgca tattctttcc caaaatattg   180

aaagtccata tatttccttg tacattttta aagttgatat ctaaatcttt catgtagttg   240

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<211> 430
<212> DNA
<213> Homo sapiens

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<223> n is a, c, g, t or u

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gttcttcctt ccattaaagt acaatctccc tggggagaga cacacaaagt acacatttag    360

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<211>   972
<212>   DNA
<213>   Homo sapiens

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caggtgcagc ggttcctctc agccacgcgg caggggaggc cccagacctc cctcgactac    660

accaacgtcc tccagcccca cgcctagccg cgggccactc acgctccacc aggcccagct    720

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agccagaggg gccgctcagc cgcaaggtta caggcgccga gagaaccacc agtcgcaggc    900

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<211>   3624
<212>   DNA
<213>   Homo sapiens
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<400> 282

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tgtgatgacc agcaattacc ttaccgacta atatccagag gagaataatt tggaagactg   600

ttgtggggaa cagcctttaa gagctggaag atgaaagctc cgattccaca cttgattctc   660

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ggactcagtt tgatgtggta caaaagttct ggtcctggag actttgaaga gccaatagcc   900

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gaagatctgg atgaaaatcg agtttgggaa agtgacatta gaattcttaa ggagcatctt  1560

ggggaacagg aagtttccat ctcattaatt gtggactctg tggaagaagg tgacttggga  1620

aattactcct gttatgttga aaatggaaat ggacgtcgac acgccagcgt tctccttcat  1680

aaacgagagc taatgtacac agtggaactt gctggaggcc ttggtgctat actcttgctg  1740

cttgtatgtt tggtgaccat ctacaagtgt tacaagatag aaatcatgct cttctacagg  1800
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cttgaaatcc tacctgatat gcttgaaaag cattatggat ataagttgtt tataccagat    1980

agagatttaa tcccaactgg aacatacatt gaagatgtgg caagatgtgt agatcaaagc    2040

aagcggctga ttattgtcat gaccccaaat tacgtagtta aaggggctg gagcatcttt      2100

gagctggaaa ccagacttcg aaatatgctt gtgactggag aaattaaagt gattctaatt     2160

gaatgcagtg aactgagagg aattatgaac taccaggagg tggaggccct gaagcacacc     2220

atcaagctcc tgacggtcat taaatggcat ggaccaaaat gcaacaagtt gaactccaag    ·2280

ttctggaaac gtttacagta tgaaatgcct tttaagagga tagaacccat tacacatgag    2340

caggctttag atgtcagtga gcaagggcct tttggggagc tgcagactgt ctcggccatt     2400

tccatggccg cggccacctc cacagctcta gccactgccc atccagatct ccgttctacc    2460

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gacgtacctc ctaccggcac cctgcctctt acctccatag gcaatcagca tacctactgt    2580

aacatcccta tgacactcat caacgggcag cggccacaga caaaatcgag cagggagcag    2640

aatccagatg aggcccacac aaacagtgcc atcctgccgc tgttgccaag ggagaccagt    2700

atatccagtg tgatatggtg acagaaaagc aagggacatc ccgtccctgg gaggttgagt    2760

ggaatctgca gtccagtgcc tggaactaaa tcctcgactg ctgctgttaa aaaacatgca    2820

ttagaatctc tagaacacga ggaaaaacag ggtcttgtac atatgttttt tggaatttct     2880

ttgtagcatc agtgtcctcc tgttttacca tgtctttac cattacattt tttgactttg    · 2940

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gatagaaaac cctttttttg cttcattagt ttagtttttag aatgggtttt tattttatt      3060

ccttttttaa aattttactt tgcttttaac atttccttgg ggtgcttgga caaatctatc    3120

cgatgggaca aggagcaccg gattctttct cgggttctgc ctagcatcaa ctgggccacg    3180

tcggccttca gagaacagtg caacaaatgc cagcattgcc attcggggga aaaaaaaaa     3240

aaaaaaaaaa agatgagaag aacacttgtt cataggaggg ccccaccagt cagagccctg    3300

aatctcttcc ttgtcccacc tcattcccca cctctacctt tctaatggcg gcatgatgtg    3360

taaactctgt gcaggggtgg gggcgggtct aactgtctta acattcaagt cactgctctt    3420

cagaatacac tctagaccca aaggtgtgct aatcacttca cagtgaccac tacagagtac    3480

taagaagaga agatcaaggg catgaaattg gggaagagtg ttatttccgt tttttaaatg    3540

agttgatgta cccttatata tatatacata tatatataaa tataaatata tataaaaaca    3600
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<211> 456
<212> DNA
<213> Homo sapiens

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taccttatct gcaaatagg catataagta atattaatct ccaatggctg tcatgagcat   180

taaaccaacc gccacagagt agatgttcaa tcaaagtgag ctgttaatga caaggttatt   240   .

tttgttgtct tttacccctt ttcacggttt catttccctt cctttgtcct ctaggtactt   300

acatcctctt cccatgtgca tcacttcctt tctgagtctc tctacatgac cgcctttctc   360

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tcaccaagtt tctcccgtga tataagaaat atacat   456

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<211> 406
<212> DNA
<213> Homo sapiens

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aaaaaccct cgcaaaaaag ggaagggctg ggtgggctcc tggccacggg gccccccaag   180

caggatttgg aagggtcctg ggctttggag tccaaaaacc aactggggcc ccccaggttt   240   .

taacctcccc agctgtaatg caaagtatgc ccccccaggg aggactcctc acctggtttt   300

gcccttccc aaccattcca ccaccaccca aaagggccta gggtgggggg cttgcactgt   360

gaaaggccca agcaaggagg ggacccaaag gccctggccc aaccca   406

<210> 285
<211> 473
<212> DNA
<213> Homo sapiens

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<222> (379)..(379)
<223> n is a, c, g, t or u

<220>
<221> misc_feature
<222> (433)..(433)
<223> n is a, c, g, t or u

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actttgtgcc aagctctgcg ggtaggcata tttcatatct taaaaaggct tgtaattcat   180

tcagggaggc aaaagcaaaa tctgtaatta gaggttagcc ataatgttat gaaagtgcca   240

tgagaataga gagagagaat aaaatcataa agatataaat aaacatattt gaactacagg   300

tgatgtattg tcttaaatta cttctatatc atatgccaga gggccttcaa tggaaaatcc   360

taggtagaaa gacactctnt ctatgttcct accacttctg agtggacctg aataaacaga   420

tattactggt atntttattt tttcctctgt tccatattct acagagatta gct   473

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<211> 500
<212> DNA
<213> Homo sapiens

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ccgggctttg ttcgcgccag aggcgctcga gacatctccg ggaggggagc gcgggcggag   120

cgcacagggc tagtttccag cagcggcggc gccccttttcc ctgccccacc acgcgacgtc   180

ctggccgtgg cttggggggga cccgggcgcc ctccaggtgc aggcagaggg tcgggtgccc   240

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agctgcccta gaccggccct agaccgggaa cctggaagca gatctgactt ccacttccaa   360

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<210> 287
<211> 364
<212> DNA
<213> Homo sapiens

<400> 287
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atgcctccag gtccctgata acgctctcta ggctcgttac gggcccagct ccaactgcct   180

tagcatccca gctcacagcc tctgaaaaaa acatcttggg gccctcaccc tgcatcaact   240

tgcttctatt gacaagcata ccactgaggt aggcatcact cataggggct gttgattaca   300

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<213>   Homo sapiens

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aggc                                                                 364


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<210>   290
<211>   403
<212>   DNA
<213>   Homo sapiens

<400>   290
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gagggaggct  ttgcaatcac  tccctgtcac  tctgtcccag  ctctcagtcc  aacagtgata   180

aggttttgca  aatctcctca  ctggacttta  gaaatacgat  tctactcagg  aacctaacag   240
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tgctgacttt tcctggcatg ccattatgct acgttcaagt ttccaccagg ttgtttgcct    300

tggcatgttt ctttgcatga agtgatccac ttggagctgc tactggtccc attgagtcct    360

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<212>   DNA
<213>   Homo sapiens

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atcccgctgc acaagttcac gtccatccgc cggaccatgt cggaggttgg gggctctgtg    180

gaggacctga ttgccaaagg ccccgtctca aagtactccc aggcggtgcc agccgtgacc    240

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ggcatcggga cgcccccccca gtgcttcaca gtcgtcttcg acacgggctc ctccaacctg    360

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aagcagccag gcatcacctt catcgcagcc aagttcgatg gcatcctggg catggcctac    660

ccccgcatct ccgtcaacaa cgtgctgccc gtcttcgaca acctgatgca gcagaagctg    720

gtggaccaga acatcttctc cttctacctg agcagggacc cagatgcgca gcctgggggt    780

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cacactcgcc cgcccactgt cctgggcgcc ctggaagccg gcggcccaag cccgacttgc    1440
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gaccccaccc aagcttggca gccgagctcg tgtatcctgg ggctcccttc atctccaggg      1620

agtcccctcc ccggccctac cagcgcccgc tgggctgagc ccctacccca caccaggccg      1680

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ctgcagggtg gtgctgggac tgagccagtc ccagggcat gtattggcct ggaggtgggg      1920

ttgggattgg gggctggtgc cagccttcct ctgcagctga cctctgttgt cctccccttg      1980

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<211>   1282
<212>   DNA
<213>   Homo sapiens

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acattggcac cagctacatc aatccttgag tatcctattg aacctagtgg tgtattaggt       180

gcggtggcta ctaaagttcg aaggcacgat atgcgtgtcc atccttacca aaggattgtg       240

accgcagacc gagccgccac cggcaactaa cctatgacct tctgacctct gaactcttca       300

cccaatgatg acctgaccat gcctgcctgc tgatcagtta actggtaatc gcctttgctt       360

gcctgtcgtc agtgcagcga gctgaggcac ttgtccgttc gtcttaccat ctaaccaaac       420

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gaaagtggtt ctagaaactg cactgaatag tagtaaagca ataaggccca attcatccca       540

cagcactgat catcttttaa tatcccaccc taagcgaacg gtaagaaggc ctctcttaag       600

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taggaatctt tttcttctca tagcgaagtc aaagctctct ctgaatgtac tgtgtgatga       720

tgcatcatgc atgaaccttc ggtcagggat atcattggtg aagtgatttc aaaaagtatt       780

caaaatttga tatgctgttt agtcactaca gtgccctcaa agggcagaag ttgcagcctt       840

ttttatattg cctgccaaaa tttgaagtat tagaagaaag tgtgccatga gagaaaaact       900

taaggagttt tgaaaagtaa tgcaaataac aaaactgcaa cactattttt aaaaagataa       960

atatctgagt taaaattact gaatctttat tttacaccta aaaaaatatg agaacaaggt      1020
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acatgcatta tgtgtcacat tactgggcaa actgttcaag tatttttttt taaacctccc     1080

tgtatagaaa aaaatcatta aggatgtaaa agccatgctt gcctatttgc tgtatacatg     1140

taatgaaatt gtagataaag tgtagtgcat tgaaacaaat gaacaaaaag tagatacttt     1200

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atactttcaa gtgttataaa aa                                              1282
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<211>   1372
<212>   DNA
<213>   Homo sapiens

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gtccagaggc cggagagcgt ttcagatcac atgtaccgga tggcagttat ggctatggtg     240

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ccagaggacc tcagaaagga gctctatgaa ctttgggaag agtacgagac ccaatctagt     360

gcagaagcca aatttgtgaa gcagctagac caatgtgaaa tgattcttca agcatctgaa     420

tatgaagacc ttgaacacaa acctgggaga ctgcaagact tctatgattc cacagcagga     480

aaattcaatc accctgagat agtccagctt gtttctgaac ttgaggcaga aagaagcact     540

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362

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364

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caacagttaa tagtaaggag gaaaagaatc cagtaaagga agaaaagaca gagactcttt      420

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385

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<211> 459
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<400> 312

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<212>   DNA
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<400>   313

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cggagccgga gccaggggag gctggacggg acgggatggg cgacagcggg cgggactccc    420

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gaacatgtac atttgcaaac ctggntaagt aganattttc atgaagcacg ctacaagaaa        180

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ttcagcataa aagattaagt acaatcccac tcaataatta agaacaactc tttatagtgt        180

aactacttta tttgaaatgc taaaaattcc caaaatatca gatatattca taagaagaaa        240

actacattat tcatgctacc acttacttcc aaatgtatct ataattaagg gctgacttta        300

taagttattg ttttaaatag cctatttccc ttaaaattac tcaagatgag taggtttttt        360

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gcaggaagga gaggaaaaga aaaaaagaca aagaggagat gagagaaaaa aatccagttc        180

agcacaacaa aagtgcaaaa gctcacctac ccaaatggca ttaaagcctc gttgtgtaat        240

cgtgtcagaa aacaaagcat actgacacat agggctttac ttcccatcca cttgagtttt        300

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417

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tcaaggaacc tagaatagca gtggctaaat agggtagaca aacttggaga tgcaatttga   180

ggtccctatt tggatcctgt gcctacctcc ttgggcgacc cacttaactc ctctgcacct   240

ctagcttctc gtgtataaaa taagaatgca ggattacatg agagctaagg tcccagttag   300

cggcaaattt aattgggatc tagacttact gatgtttctc tgactcagtt cctgacaaga   360

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aggttgccag actgagttct gctaccactg caagcagata tggcatccaa atcagacatg   180

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caaagacaca gccagtcttg gtgcaattag tgacaacgca agcactcgtg ctatggccgg   1140

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agctttttaa aaggaaaccc agtcatccca ctatgaatct ggcatcttct tatgcttcta     240

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ctcctggaga acaatctggt atagccgggc aaagaaggtc tagtcttccc cttatcatct     720
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gggagtcgta ctgagcagct tccgaagccg gaccccgaa gagggtgggg gcccaggtgg    240

cctggtcgtg ggcggggggc aggaggaaga ggaggaggaa gaagagagg ccctgtgtc    300

cgtctgggat gaggaggagg atggtgccgt gtttaccgtc acaagccgcc aatatcgacc   360

tcttgatccc ttggtcccta tgcctccccc acgttcctcc cgacggctcc gagctggcac   420

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agaggtagcc atctctgtac tgtcaacctg ctggcctct caccctgagg attttggctc    660

tgaggccaag ggtcagcttg accggcttga gagcttctta cttcagacag ggtatgcagc   720

agggaagggt gttgggggg gcagcgctga cctcatccgc aatctccggt cccgggtgga    780

cccccaggcc cccgaccttc ctaagcccct ggccctcccc ggcgatcccc ctgctgaccc   840

cacggatgtc ctggtgttcc tcgctgacca cttggccgaa cagctgaccc tgctagatgc   900

ggaacttttt ctcaatttga tcccctctca gtgcctggga ggcctgtggg gtcacagaga   960

ccggccagga cattctcacc tctgcccatc tgtccgagct actgtcacac agtttaacaa  1020

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ccgcgtggca gaggagtgcc ggctgctccg aaacttctct tcagtttatg ccgtggtgtc  1200

agccctgcag tccagcccca tccacaggct tcgggcagcc tggggggaag caaccaggga  1260

cagcctcaga gtcttttcca gcctctgcca gattttctcc gaggaggata attattccca  1320

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gaaggacctt gtgatgctgg atgcagcctc caaggatgag ttggagaatg gatacatcaa  1500

ttttgacaag cggaggaagg agtttgcagt cctttctgag ttgcgacggc tccagaatga  1560
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gccactgaca gaggctcaga gccatcgtgt atcctgtgag gtggagccac ctggttccag    1680

tgaccctcct gccccacggg tgcttcggcc aacattggtc atctcgcagt ggacagaggt    1740

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gccatctgtc tcgtcactag actctgcctt ggaaagcagt ccatccctgc acagtccagc    1920

tgaccccagc cacctctccc caccagcctc ctccctaggg ccttctcgag gtcaccgccg    1980

ctcagcctcc tgtggctccc cgctgagtgg gggtgcagaa gaggcctccg gggggactgg    2040

atatggggga gagggatctg ggccaggggc ctctgattgc cgtatcatcc gagtccagat    2100

ggagttgggg gaagatggca gtgtctataa gagcattttg gtgacaagcc aggacaaggc    2160

tccaagtgtc atcagtcgtg tccttaagaa aaacaatcgt gactctgcag tggcttcaga    2220

gtatgagctg gtacagctgc taccagggga gcgagagctg actatcccag cctcggctaa    2280

tgtattctac gccatggatg gagcttcaca cgatttcctc ctgcggcagc ggcgaaggtc    2340

ctctactgct cacctggcg tcaccagtgg cccgtctgcc tcaggaactc ctccgagtga    2400

gggaggaggg ggctcctttc ccaggatcaa ggccacaggg aggaagattg cacgggcact    2460

gttctgagga ggaagccccg ttggcttaca gaagtcatgg tgttcatacc agatgtgggt    2520

agccatcctg aatggtggca attatatcac attgagacag aaattcagaa agggagccag    2580

ccaccctggg gcagtgaagt gccactggtt taccagacag ctgagaaatc cagccctgtg    2640

ggaactggtg tcttataacc aagttggata cctgtgtata gcttcccacc ttccatgagt    2700

gcagcacaca ggtagtgctg gaaaaacgca tcagtttctg attcttggcc atatcctaac    2760

atgcaagggc caagcaaagg cttcaaggct ctgagcccca gggcagaggg gaatggcaaa    2820

atgtaggtcc tcgcaggagc tcttcttccc actctggggg tttctatcac tgtgacaaca    2880

ctaagataat aaaccaaaac actacctgaa aaaaaaa                              2918
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<210> 335
<211> 1755
<212> DNA
<213> Homo sapiens

<400> 335
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gagggccgcg agttccccac gcaccgctcg gtgctggccg cctgcagcca gtacttcaag    180

aagctgttca cgtcgggcgc cgtggtggac cagcagaacg tgtacgagat cgacttcgtc    240
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422

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agcgccgagg cgctcaccgc gctcatggac ttcgcctaca cggccacgct caccgtcagc          300

acagccaacg tgggtgacat cctcagcgcc gcccgcctgc tggagatccc cgccgtgagc          360

cacgtgtgcg ccgacctcct ggaccggcag atcctggcgg ccgacgcggg cgccgacgcc          420

gggcagctgg accttgtaga tcaaattgat cagcgcaacc tcctccgcgc caaggagtac          480

ctcgagttct tccagagcaa ccccatgaac agcctgcccc ccgcggccgc cgccgccgct          540

gccagcttcc cgtggtccgc ctttggggcg tccgatgatg acctggatgc caccaaggag          600

gccgtggccg ccgctgtggc cgccgtggcc gcgggcgact gcaacggctt agacttctat          660

gggccgggcc ccccggccga gcggcccccg acgggggacg gggacgaggg cgacagcaac          720

ccgggtctgt ggccagagcg ggatgaggac gcccccaccg ggggtctctt tccgccgccg          780

gtggccccgc cggccgccac gcagaacggc cactacggcc gcggcggaga ggaggaggcc          840

gcctcgctgt cggaggcggc ccccgagccg ggcgactctc cgggcttcct gtcgggagcg          900

gccgagggcg aggacgggga cgggcccgac gtggacgggc tggcggccag cacgctgctg          960

cagcagatga tgtcatcggt gggccgggcg ggggccgcgg cgggggacag cgacgaggag         1020

tcgcgggccg acgacaaggg cgtcatggac tactacctga agtacttcag cggcgcccac         1080

gacggcgacg tctacccggc ctggtcgcag aaggtggaga agaagatccg agccaaggcc         1140

ttccagaagt gccccatctg cgagaaggtc atccagggcg ccggcaagct gccgcgacac         1200

atccgcaccc acacgggcga gaagccctac gagtgcaaca tctgcaaggt ccgcttcacc         1260

aggcaggaca agctgaaggt gcacatgcgg aagcacacgg gcgagaagcc gtacctgtgc         1320

cagcagtgcg gcgccgcctt tgcccacaac tacgacctga gaaccacat gcgcgtgcac         1380·

acgggcctgc gccctacca gtgcgacagc tgctgcaaga ccttcgtccg ctccgaccac         1440

ctgcacagac acctcaagaa agacggctgc aacggcgtcc cctcgcgccg cggccgcaag         1500

ccccgcgtcc ggggcggggc gcccgacccc agcccggggg ccaccgcgac ccccggcgcc         1560

cccgcccagc ccagctcccc cgacgcccgg cgcaacggcc aggagaagca ctttaaggac         1620

gaggacgagg acgaggacgt ggccagcccc gacggcttgg ccggttgaa tgtagcgggc         1680

gccggtggag gaggtgacag cggaggtggc cccggggccg ccaccgacgg taacttcaca         1740

gccggactcg cctaa                                                         1755
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<210>   336
<211>   1287
<212>   DNA
<213>   Homo sapiens

<400>   336
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ctgtccccag acttgtgtcc agggaagata gtgttgaggg ccctcaagga gagcggggca    120

gggatgcctg agcaggacaa ggaccctaga gtccaagaga atcctggtga tcagagaagg    180

gtcccggagg tcaccgggga tgcaccgtct gcatttcggc ccctgcggga caatggaggc    240

ctctctccct ttgtgcccgg gcccgggcct ctgcagacag acctccatgc ccagaggtca    300

gaaatcagat ataaccagac atcccagacc tcctggacga gctcctgcac caaccgaaat    360

gccatctcca gctcctacag ctccacggga ggcttgccgg ggctaaagcg gaggaggggg    420

ccagcctcat cccactgcca gctgaccctc agttcctcaa agacagtgag tgaggacagg    480

cctcaggctg tctcttcagg tcacacccag tgtgaaaagg cagcagatat agcaccaggg    540

cagacactca ccctcaggaa tgactcctcc acatccgagg cctctaggcc cagtacacac    600

aagtttcccc tgctgccatg caggcgaggg gagcctttga tgctgccacc tcccttagag    660

ctggggtacc gggtcactgt tgaagacctt gaccgggaga aggaggcggc attccagcgc    720

atcaacagtg cactgcaagt tgaggacaag gccatctcgg actgcagacc ctcacggcct    780

tcccacactt tgtcctcact tgcaacaggg gcttctggtc tgcctgccgt ttctaaagca    840

cccagtatgg atgcacagca ggagacacac aagtcccaag actgcctggg cctactggcc    900

cccttagcat ctgctgcaga ggtcccctct acagctccca tgtctgggaa gaagcacaga    960

ccaccaggcc ccctgttctc ctcctcagat ccccttcctg ccacctcttc ccattcccag    1020

gactcagccc aggtcacctc gctgattcct gcccccttcc cagctgcaag catggatgcg    1080

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ccctccgcat tgaaccccac gttggggtca ctactggagt ggatggaggc ccttcacatt    1200

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tcccggacca gctcgtgccc caaatga                                       1287
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<210>  337
<211>  539
<212>  DNA
<213>  Homo sapiens

<400>  337
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ctaggattct ggaaacagag acagtaagag ttctccaagg attttgcctt ttttgtttgt    120

ttttgagatg gagtctcgct cttgtcgccc aggctggagt gcagtggcac gatctcagct    180

ccctgcaacc tccgcctccc gggttcatgt gattctcctg cctcagcctc cccagtagct    240

gggaatacag gcacccgcca ccatgcccgg ctaattttg tagtttagt agagacgggg    300

tttcatcatg ttggacaggc tggtctcgaa ctcctgacct caggtgatcc atcagcctgg    360
```

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gcctcccaaa gtactgggat tacaggcatg agccaccaca cctggcccca ttttttattt      420

attacaaaat caaagacatg ggtgatgcct ggcacatgtt gtctggagtc tggcacactg      480

gttatcaata gcacattcag tgtattcagt gatgtcattc tttatttatt tttgagaca       539
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<210>  338
<211>  396
<212>  DNA
<213>  Homo sapiens

<400>  338
ccgctgccat ggcgaagtgg caaattcacc aaacggctca gcaagcctgg cacggcggct       60

gacgccggca gagcgtgtct gaggccgtgc ggggctccgt ggtgctggaa aaggccaaag      120

ttgttgagcc cctggactat gagaatgtta ttgcccaaag aaaaacccag atttacagcg      180

acccccctccg agatctgctt atgttcccaa tggaagatat atctatctcg gtgataggtc      240

gtcaacgcag aacggtgcag tctactgtac cagaagatgc tgaaaagagg gcccagagtt      300

tatttgttaa agagtgtatt aaaacctata gcacagattg gcacgtggta aactacaagt      360

atgaggactt ctctggggac tttcgaatgt tgccat                                 396
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<210>  339
<211>  409
<212>  DNA
<213>  Homo sapiens

<400>  339
ggatccatcc cgcctcccgg cgtctcactg tgtgccctac cctttgaaac acgcccccgc       60

gcccgccctg ccgtagacca ggcagcgagg aagcccacag tctccggggg cgctgccgaa      120

tgttagcacg tgcttctcga aacaccgcat cccccgggtc ccgccccgcc cggcgcgcgc      180

actcgaaccc gcccagagag cgttgcgtgg cgctgggtgc gagcagggtc tagccacccc      240

caccctcacc tcacctcagg ccaccttgct tttttcaggt tcatcaaggt ttgcgcagtg      300

gatccgcgaa tgaagccagc ctggaagatc cccagtctcg agacagagcc tgacaggggc      360

agatgcactg gaaggaccct gtctgggttt agcaaccaag cagccatcc                   409
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<210>  340
<211>  552
<212>  DNA
<213>  Homo sapiens


<220>
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<222>  (366)..(366)
<223>  n is a, c, g, t or u
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<400> 340

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aaaacccctg gggggatttt aaaaacccc cagtttattt ggaaaaattc aggatttgga        120

cattttctaa aaaaacccaa aaattccctt acatcggcct aaacatttat taaaggggggg      180

ggaaaaaacc ttttttcaatt tttaagcggg ccaaaaaaaa acccttttccc caactttttaa    240

aattttttaa aaaaaaagc caatttatat gggacattgg gggtcccggg gcataaaaaa        300

acaggcattt tccccaacgg gccaaaaacc aacaaacaag gggcctttttt ttggggggggaa    360

attaantttc aaaggcaaag gggttcaaag gggacccaag gggctgcccc ccccaggaag      420

aaaaccccac aaaaataatg aagtttggag ggggccaccg ccgggtccca aaaagggttc      480

tttctttccct attttttttaaa aaaacaaggg ggcccctaggg ggggggggagaa aaaaaaacca 540

ctttaatata ga                                                          552
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<210> 341
<211> 474
<212> DNA
<213> Homo sapiens

<400> 341

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tttttttttt tttgattttta acaatgaatt tcaggtttaa tgattttttta cctttcctct       60

gaaagacagt tgaaaaggac acaaatgatt cacaacagag gtttatgttt gaggtgatca       120

ccactaatac acactttgaa aagtaccatc accatatata tatttgcttt aaaaaaattat      180

gacaagcttc aggtaaaaat aatttttaaa gggtccattt ttcatttacg tacaatcagt       240

acatcttatt tacatatatg actggatctt tattctattt tcttcatata agatattttta      300

actggtaggt aactgctcta ttctgtttttt atagaaagac taaacaccttt atttacaggc     360

agttttgatg atgctagttt gtctccaaat tacgtactga atatagttaa aatcttaatg       420

aataacataa aaattaagat ccggtattaa cagactattt tatgggtcac actg             474
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<210> 342
<211> 2379
<212> DNA
<213> Homo sapiens

<400> 342

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ccggggtcac cccggagcct gtccgctatg cggctcctgc ctctagcccc aggtcggctc       120

cggcggggca gccccgcca cctgccctcc tgcagcccag cgctgctact gctggtgctg        180

ggcggctgcc tggggggtctt cggggtggct gcgggaaccc ggaggcccaa cgtggtgctg      240

ctcctcacgg acgaccagga cgaagtgctc ggcggcatga caccactaaa gaaaaccaaa      300
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gctctcatcg gagagatggg gatgactttt tccagtgctt atgtgccaag tgctctctgc      360

tgccccagca gagccagtat cctgacagga aagtacccac ataatcatca cgttgtgaac      420

aacactctgg aggggaactg cagtagtaag tcctggcaga agatccaaga accaaatact      480

ttcccagcaa ttctcagatc aatgtgtggt tatcagacct tttttgcagg gaaatattta      540

aatgagtacg gagccccaga tgcaggtgga ctagaacacg ttcctctggg ttggagttac      600

tggtatgcct tggaaaagaa ttctaagtat tataattaca ccctgtctat caatgggaag      660

gcacggaagc atggtgaaaa ctatagtgtg gactacctga cagatgtttt ggctaatgtc      720

tccttggact ttctggacta caagtccaac tttgagccct tcttcatgat gatcgccact      780

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caagccagag ctccaatgac taattcttca atacagtttt tagataatgc atttaggaaa      960

aggtggcaaa ctctcctctc agttgatgac cttgtggaga aactggtcaa gaggctggag      1020

ttcactgggg agctcaacaa cacttacatc ttctatacct cagacaatgg ctatcacaca      1080

ggacagtttt ccttgccaat agacaagaga cagctgtatg agtttgatat caaagttcca      1140

ctgttggttc gaggacctgg gatcaaacca aatcagacaa gcaagatgct ggttgccaac      1200

attgacttgg gtcctactat tttggacatt gctggctacg acctaaataa gacacagatg      1260

gatgggatgt ccttattgcc cattttgaga ggtgccagta acttgacctg gcgatcagat      1320

gtcctggtgg aataccaagg agaaggccgt aacgtcactg acccaacatg cccttccctg      1380

agtcctggcg tatctcaatg cttcccagac tgtgtatgtg aagatgctta, taacaatacc      1440

tatgcctgtg tgaggacaat gtcagcattg tggaatttgc agtattgcga gtttgatgac      1500

caggaggtgt ttgtagaagt ctataatctg actgcagacc cagaccagat cactaacatt      1560

gctaaaacca tagacccaga gcttttagga aagatgaact atcggttaat gatgttacag      1620

tcctgttctg ggccaacctg tcgcactcca ggggtttttg accccggata caggtttgac      1680

ccccgtctca tgttcagcaa tcgcggcagt gtcaggactc gaagattttc caaacatctt      1740

ctgtagcgac ctcacacagc ctctgcagat ggatccctgc acgcctcttt ctgatgaagt      1800

gattgtagta ggtgtctgta gctagtcttc aagaccacac ctggaagagt ttctgggctg      1860

gctttaagtc ctgtttgaaa aagcaaccca gtcagctgac ttcctcgtgc aatgtgttaa      1920

actgtgaact ctgcccatgt gtcaggagtg gctgtctctg gtctcttcct ttagctgaca      1980

aggacactcc tgaggtcttt gttctcactg tattttttt atcctggggc cacagttctt       2040

gattattcct cttgtggtta aagactgaat ttgtaaaccc attcagataa atggcagtac      2100

tttaggacac acacaaacac acagatacac cttttgatat gtaagcttga cctaaagtca      2160
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427

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aaggacctgt gtagcatttc agattgagca cttcactatc aaaaatacta acatcacatg      2220

gcttgaagag taaccatcag agctgaatca tccaagtaag aacaagtacc attgttgatt      2280

gataagtaga gatacatttt ttatgatgtt catcacagtg tggtaaggtt gcaaattcaa      2340

aacatgtcac ccaagctctg ttcatgtttt tgtgaattc                            2379
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<210> 343
<211> 558
<212> DNA
<213> Homo sapiens

<400> 343
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acatgtattt acatgattgc tacatacaaa attacagcac tgtggtatgt acacatctac       120

aggtacattc ttgccgcgca tccctgctgt gctttcccca cgtgagggag ggagggagac       180

tgaatcggtt gttagcagct gagggctggc cgggccgcgg agcctctgag ttggggcctg       240

ggttgaggag gatgtactat tgtcacacat tcatcaacta ttatctgctc tttttttccaa      300

tctttttgca atttcttcct cttatctcat cttacctcct ctttcgctag taatgaacta       360

actccccaac gttgttctac attccgtccg actctttta taactctcta tacatgttac       420

tgcattctta tacattctta acatactagc tgcggatgta atagctactt ctgttcgttt       480

gattaacatc ctatttcaac ttattagatt gctatgttcc cttcatattt tactagattt       540

cgggtcgtat tattttga                                                     558
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<210> 344
<211> 569
<212> DNA
<213> Homo sapiens

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<220>
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<223> n is a, c, g, t or u

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<220>
<221> misc_feature
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428

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<223>  n is a, c, g, t or u

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<222>  (175)..(175)
<223>  n is a, c, g, t or u

<220>
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<222>  (177)..(177)
<223>  n is a, c, g, t or u

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<222>  (179)..(179)
<223>  n is a, c, g, t or u

<220>
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<222>  (190)..(190)
<223>  n is a, c, g, t or u

<220>
<221>  misc_feature
<222>  (194)..(194)
<223>  n is a, c, g, t or u
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<222>  (197)..(197)
<223>  n is a, c, g, t or u

<220>
<221>  misc_feature
<222>  (202)..(203)
<223>  n is a, c, g, t or u

<220>
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<222>  (205)..(206)
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<220>
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<223>  n is a, c, g, t or u

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<220>
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cntttcncgg ncngcnnngc ggcccnnggg tgggtngtct gngnngctct cnncncncnt       180

ggggttgssn gggnccnttt cnncnntggs ngcntcnccg gncttccngn nttttgggcc       240

ntcttccngc ttttttccng nncggcgntc nntgcgtttt ccttcngctc ngcggncttg       300

cgtgsgntgt gggcgcgtgt ggcgnntccn ntncnggggc gntngccggc gcttatttgg       360

cctggmtggt tcaggataat cacctgagca gtgaagccag ctgcttccat tggtgggtca       420

tttttgctgt caccagcaac gttgccacgc cgcacatcct tgccagmcac attcttgccm       480

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<210>  345
<211>  1536
<212>  DNA
<213>  Homo sapiens

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ccacagatca gaaatccgat ggagcggatg tatcgagaca cattctacga caactttgaa       120

aacgaaccca tcctctatgg tcggagctac acttggctgt gctatgaagt gaaaataaag       180

aggggccgct caaatctcct ttgggacaca ggggtctttc gaggccaggt gtatttcaag       240

cctcagtacc acgcagaaat gtgcttcctc tcttggttct gtggcaacca gctgcctgct       300

tacaagtgtt tccagatcac ctggtttgta tcctggaccc cctgcccgga ctgtgtggcg       360

aagctggccg aattcctgtc tgagcacccc aatgtcaccc tgaccatctc tgccgcccgc       420

ctctactact actgggaaag agattaccga agggcgctct gcaggctgag tcaggcagga       480

gcccgcgtga cgatcatgga ctatgaagaa tttgcatact gctgggaaaa ctttgtgtac       540

aatgaaggtc agcaattcat gccttggtac aaattcgatg aaaattatgc attcctgcac       600

cgcacgctaa aggagattct cagatacctg atggatccag acacattcac tttcaacttt       660

aataatgacc ctttggtcct tcgacggcgc cagacctact gtgctatga  ggtggagcgc       720

ctggacaatg gcacctgggt cctgatggac cagcacatgg gctttctatg caacgaggct       780

aagaatcttc tctgtggctt ttacggccgc catgcggagc tgcgcttctt ggacctggtt       840

ccttctttgc agttggaccc ggcccagatc tacagggtca cttggttcat ctcctggagc       900
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ccctgcttct cctggggctg tgccgggaa gtgcgtgcgt tccttcagga gaacacacac      960

gtgagactgc gcatcttcgc tgcccgcatc tatgattacg accccctata taaggaggcg     1020

ctgcaaatgc tgcgggatgc tggggcccaa gtctccatca tgacctacga tgagtttgag     1080

tactgctggg acacctttgt gtaccgccag ggatgtccct tccagccctg ggatggacta     1140

gaggagcaca gccaagccct gagtgggagg ctgcgggcca ttctccagaa tcagggaaac     1200

tgaaggatgg gcctcagtct ctaaggaagg cagagacctg ggttgagcag cagaataaaa     1260

gatcttcttc caagaaatgc aaacagaccg ttcaccacca tctccagctg ctcacagaca     1320

ccagcaaagc aatgtgctcc tgatcaagta gattttttaa aaatcagagt caattaattt     1380

taattgaaaa tttctcttat gttccaagtg tacaagagta agattatgct caatattccc     1440

agaatagttt tcaatgtatt aatgaagtga ttaattggct ccatatttag actaataaaa     1500

cattaagaat cttccataat tgtttccaca aacact                               1536
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<210>  346
<211>  476
<212>  DNA
<213>  Homo sapiens

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ctgtcagcct tcttctgacc tttggacttc tcttccttgg cctctgtctc ttccctactc     120

ccttctctca atctgacttt tgtctcttgg cttcccccag cctcccctct atcctcactg     180

gcctttccag cctccacctt ggtctctgga cttccctctg cctcttccct gatgtctagc     240

ctgcctccag gctcagcctg cttgtcctcc ccaacttccc agcatgcctg ctcttcccca     300

ccctgtccca gagcctgcct tccacatcct gctgcctctc cctccagact ccctgaaccc     360

ttccagattg ggggtttagg tcccagaagg ggacttaggt catcataggc actcaggaaa     420

acttcctccc cattttcctc ctcaacttca ggcctggggc cagcggagtc caggga         476
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<211>  412
<212>  DNA
<213>  Homo sapiens

<400>  347
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ggttacaatc gtcttaaata tttctgaagt ttaaatacaa tctgcataat aatgttacta     120

taaaatgtaa actttcagtg ttcttttaaa tttcaaaatc acacttttt ttttttggg        180

cttttggct ttttttttt ttttcctttt aatacctgaa tgttctgcga aaactgaaat       240
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```
tgttacaggc caccctgccg cggccagggc gagacaggct gggcccaccc agaggtagaa    300

agtagtttta tgtttttttaa aaatttttt aagttttttt tttttttcctc ctattacctg    360

agtttcaggc gtggttccca cgccgtctga caaactccag agaaactgaa at             412
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<210>   348
<211>   1268
<212>   DNA
<213>   Homo sapiens

<400>   348
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gtcctcagtc tgtgggggggc agtagtaggt gctcaaaaca tcacagcccg gattggcgag   120

ccactggtgc tgaagtgtaa gggggccccc aagaaaccac cccagcggct ggaatggaaa    180

ctgaacacag gccggacaga agcttggaag gtcctgtctc cccagggagg aggcccctgg    240

gacagtgtgg ctcgtgtcct tcccaacggc tccctcttcc ttccggctgt cgggatccag    300

gatgagggga ttttccggtg ccaggcaatg aacaggaatg gaaaggagac caagtccaac    360

taccgagtcc gtgtctacca gattcctggg aagccagaaa ttgtagattc tgcctctgaa    420

ctcacggctg gtgttcccaa taaggtgggg acatgtgtgt cagagggaag ctaccctgca    480

gggactctta gctggcactt ggatgggaag cccctggtgc ctaatgagaa gggagtatct    540

gtgaaggaac agaccaggag acaccctgag acagggctct tcacactgca gtcggagcta    600

atggtgaccc agcccggggg aggagatccc cgtcccacct tctcctgtag cttcagccca    660

ggccttcccc gacaccgggc cttgcgcaca gcccccatcc agccccgtgt ctgggagcct    720

gtgcctctgg aggaggtcca attggtggtg gagccagaag gtggagcagt agctcctggt    780

ggaaccgtaa ccctgacctg tgaagtccct gcccagccct ctcctcaaat ccactggatg    840

aaggatggtg tgcccttgcc ccttcccccc agccctgtgc tgatcctccc tgagataggg    900

cctcaggacc agggaaccta cagctgtgtg gccacccatt ccagccacgg gccccaggaa    960

agccgtgctg tcagcatcag catcatcgaa ccaggcgagg aggggccaac tgcaggctct    1020

gtgggaggat cagggctggg aactctagcc ctggccctgg ggatcctggg aggcctgggg    1080

acagccgccc tgctcattgg ggtcatcttg tggcaaaggc ggcaacgccg aggagaggag    1140

aggaaggccc cagaaaacca ggaggaagag gaggagcgtg cagaactgaa tcagtcggag    1200

gaacctgagg caggcgagag tagtactgga gggccttgag gggcccacag acagatccca    1260

tccatcag                                                             1268
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<211>   475
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<213>   Homo sapiens

<220>
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<223>   n is a, c, g, t or u

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gtcatgctac atccactttg cacctagttt gaacaggttt acaaagcaag tcagtaaccc   120

ctgcatgcct gggtgcctga agttgaaaag gggtggctct aagatgtggt ctactacctc   180

tcctggactg ttgcagttgg gtgtggctga tttgaaattg tgcttcaaaa gaatgagttc   240

tagtccctga atagaggagc tcacaccaca gtgcactgta gatctttgtg atccagaagt   300

cctccagatg ttcccaaaag gatcttctta aggtgtttgc tggggatgt tgtgtgtatt   360

aggggagtgt ttcccttggg gggccttttg agncctcctg gggagagaag gcntcatagg   420

ttaatgggca tncccagaa aantttacaa tttgggattt ggggacccca antta   475

<210>   350
<211>   2634
<212>   DNA
<213>   Homo sapiens

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tcgcccactt ccccttacca gcggggtggg cgcggagaag acctgccgga gccatggagg   180

acgaagtggt ccgctttgcc aagaagatgg acaagatggt gcagaagaag aacgcggctg   240

gagcattgga tttgctaaag gagcttaaga atattcctat gaccctggaa ttactgcagt   300

435

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ccacaagaat cggaatgtca gttaatgcta ttcgcaagca gagtacagat gaggaagtta    360

catctttggc aaagtctctc atcaaatcct ggaaaaaatt attagatggg ccatcaactg    420

agaaagacct tgacgaaaag aagaaagaac ctgcaattac atcgcagaac agccctgagg    480

caagagaaga aagtacttcc agcggcaatg taagcaacag aaaggatgag acaaatgctc    540

gagatactta tctttcatcc tttcctcggg caccaagcac ttctgattct gtgcggttga    600

agtgtaggga gatgcttgct gcagctcttc gaacagggga tgactacatt gcaattggag    660

ctgatgagga agaattagga tctcaaattg aagaagctat atatcaagaa ataaggaata    720

cagacatgaa atacaaaaat agagtacgaa gtaggatatc aaatcttaaa gatgcaaaaa    780

atccaaattt aaggaaaaat gtcctctgtg ggaatattcc tcctgactta tttgctagaa    840

tgacagcaga ggaaatggct agtgatgagc tgaaagagat gcggaaaaac ttgaccaaag    900

aagccatcag agagcatcag atggccaaga ctggtgggac ccagactgac ttgttcacat    960

gtggcaaatg taaaaagaag aattgcactt acacacaggt acaaacccgt agtgctgatg    1020

aaccaatgac aacatttgtt gtctgtaatg aatgtggaaa tcgatggaag ttctgttgag    1080

ttggaagaat tggcaaaata tctggaccat taagaaaacg gattttgtaa ctagctttaa    1140

actaggccaa gcaactagtt ttcctgcaaa tcaaattttt aaagcaactt gggttagact    1200

ttgtttttga cctaacatcc cttccttaaa tgccttctgt agtttcagat cagtagggag    1260

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gttgatatta attaaactct tggcaatatt cttctttct taaaggaaaa tataccttaa    1380

ctttttttct tttacactgt gaaacataca cagtagaaat tctgttactc tctgttatta    1440

atacataaat gaaaatacat ttttttccat attggcatgt agctacaaat attaaaggag    1500

gagaaaggt aatataattt taggtttacc aaatatggtg tgtattcaaa taatacttga    1560

ccagcttatc taaaatgtac ataattttga ggtagcttat gaatttgatt ttaattatta    1620

tgttcacaag cttggaatat tagatattat tttgcatctg taactaaccg tgatcatcat    1680

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agttttgcag aagaacactg ttgtagttta gaaggctttt cataaatccc ctcataggca    1860

aagatgaaaa cttcccacta ttttttttccc ctcttaggaa gacatactgg aaagaaaatg    1920

tttagcatct tagtgtagta tagctattgt aaacagttca tgactagatt ttgattcgga    1980

aatctatact gaccaaggat taatcttaag gattgtataa ttcattaaag ctgtggtctt    2040

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tcatgagtga gattgttgaa caaactgaat atatgggcta tagcaagtag ctttacagta    2160

cagatcttac aattaagttt tgcttttgtt aaagtgtgta ccattttttc tgtttggagt    2220

aagacaaaaa ttgttttgac ataggttccc tagggtacac ttgctctagc atactttaaa    2280

ggccactgtt gcaaagtcta cattttatgc tgaatctgca ttctgtcagg cacccataga    2340

aagacctcag tacatgcttt gcactctcct ttgctccctt tttccaattt cttattgcat    2400

atcattttgt tgtaatacag aaagcagcat tttttaaatgt ccgtgttaag aattggcccg    2460

ctggtaccaa ctcacctcta ttttgtcagt tcatagttga agattttgtt ttatttcaaa    2520

aagaaagtac atttttgaaa taatgtttca gaataaaata atctcacttt taagtgatcc    2580

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<211>  2090
<212>  DNA
<213>  Homo sapiens

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gaggggttcg ggccgcgtag gggcgctttg ttttgttcgg ttttgttttt ttgagagtgc    120

gagagaggcg gtcgtgcaga cccgggagaa agatgtcaaa cgtgcgagtg tctaacggga    180

gccctagcct ggagcggatg gacgccaggc aggcggatca ccccaagccc tcggcctgca    240

ggaacctctt cggcccggtg gaccacgaag agttaacccg ggacttggag aagcactgca    300

gagacatgga agaggcgagc cagcgcaagt ggaatttcga ttttcagaat cacaaacccc    360

tagagggcaa gtacgagtgg caagaggtgg agaagggcag cttgcccgag ttctactaca    420

gacccccgcg gccccccaaa ggtgcctgca aggtgccggc gcaggagagc caggatggca    480

gcgggagccg cccggcggcg cctttaattg gggctccggc taactctgag gacacgcatt    540

tggtggaccc aaagactgat ccgtcggaca gccagacggg gttagcggag caatgcgcag    600

gaataaggaa gcgacctgca accgacgatt cttctactca aaacaaaga gccaacagaa     660

cagaagaaaa tgtttcagac ggttccccaa atgccggttc tgtggagcag acgcccaaga    720

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atatcgctga cttcatggaa tggacatcct gtataagcac tgaaaaacaa caacacaata    900

acactaaaat tttaggcact cttaaatgat ctgcctctaa aagcgttgga tgtagcatta    960

tgcaattagg ttttttcctta tttgcttcat tgtactacct gtgtatatag tttttacctt   1020

ttatgtagca cataaacttt ggggaaggga gggcagggtg gggctgacga actgacgtgg   1080
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agcggggtat gaagagcttg ctttgattta cagcaagtag ataaatattt gacttgcatg     1140

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cagagacagc tgatacttca tttaaaaaaa tcacaaaaat ttgaacactg gctaaagata     1260

attgctattt atttttacaa gaagtttatt ctcatttggg agatctggtg atctcccaag     1320

ctatctaaag tttgttagat agctgcatgt ggctttttta aaaaagcaac agaaacctat     1380

cctcactgcc ctccccagtc tctcttaaag ttggaattta ccagttaatt actcagcaga     1440

atggtgatca ctccaggtag tttggggcaa aaatccgagg tgcttgggag ttttgaatgt     1500

taagaattga ccatctgctt ttattaaatt tgttgacaaa attttctcat tttcttttca     1560

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gtaagtaact tcacattaaa aaatgaaata ttttttaatt taaagcttac tctgtccatt     1680

tatccacagg aaagtgttat ttttaaagga aggttcatgt agagaaaagc acacttgtag     1740

gataagtgaa atggatacta catctttaaa cagtatttca ttgcctgtgt atggaaaaac    ·1800

catttgaagt gtacctgtgt acataactct gtaaaaacac tgaaaaatta tactaactta     1860

tttatgttaa aagatttttt ttaatctaga caatatacaa gccaaagtgg catgttttgt     1920

gcatttgtaa atgctgtgtt gggtagaata ggttttcccc tcttttgtta aataatatgg     1980

ctatgcttaa aaggttgcat actgagccaa gtataatttt ttgtaatgtg tgaaaaagat     2040

gccaattatt gttacacatt aagtaatcaa taaagaaaac ttccatagct               2090
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<211>    738
<212>    DNA
<213>    Homo sapiens

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atggaccaac aagcaatata tgctgagtta aacttaccca cagactcagg cccagaaagt     120

tcttcacctt catctcttcc tcgggatgtc tgtcagggtt caccttggca tcaatttgcc     180

ctgaaactta gctgtgctgg gattattctc cttgtcttgg ttgttactgg gttgagtgtt     240

tcagtgacat ccttaataca gaaatcatca atagaaaaat gcagtgtgga cattcaacag     300

agcaggaata aaacaacaga gagaccgggt ctcttaaact gcccaatata ttggcagcaa     360

ctccgagaga aatgcttgtt attttctcac actgtcaacc cttggaataa cagtctagct     420

gattgttcca ccaaagaatc cagcctgctg cttattcgag ataaggatga attgatacac     480

acacagaacc tgatacgtga caaagcaatt ctgttttgga ttggattaaa tttttcatta     540

tcagaaaaga actggaagtg ataaacggc tctttttaa attctaatga cttagaaatt     600
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438

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agaggtgatg ctaaagaaaa cagctgtatt tccatctcac agacatctgt gtattctgag    660

tactgtagta cagaaatcag atggatctgc caaaaagaac taacacctgt gagaaataaa    720

gtgtatcctg actcttga                                                   738
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<211>  835
<212>  DNA
<213>  Homo sapiens

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aggaaggaga ctgtctggca gttgcctctg ttccgcagat ttagaagatt tgacccgcaa    180

tttgcactga caaacatcgc tgtgctaaaa cataacttga acatcgtgat taaacgctcc    240

aactctaccc ctgctaccaa tgaggttcct gaggtcacag tgttttccaa gtctcccgtg    300

acactgggtc agcccaacac cctcatctgt cttgtggaca acatctttcc tcctgtggtc    360

aacatcacct ggctgagcaa tgggcactca gtcacagaag gtgtttctga ccagcttc      420

ctctccaaga gtgatcattc cttcttcaag atcagttacc tcaccttcct cccttctgat    480

gatgagattt atgactgcaa ggtggagcac tggggcctgg atgagcctct tctgaaacac    540

tgggagcctg agattccaac acctatgtca gacctcacag agactgtggt ctgcgccctg    600

gggttgtctg tgggcctcgt gggcattgtg gtggggaccg tcttgatcat ccgaggcctg    660

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tgttacctac taagagatgc ctggggtaag ccgcccagct acctaattcc tcagtaacat    780

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439

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<213>  Homo sapiens
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gattacgcca actcggatcc ggcggtcgtg aggtctggac gagtcaagaa agccgtagcc    240

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cacaaagaag aactggacgg ggctggagga gaagagtatc ccatggatat ttggctattg    480

ctggcctcct atatccgtcc tgaggacatt gtgaattttt ccctgatttg taagaatgcc    540

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aatccagcca ttccagaaag caccccagc acattaaaga attccaaatg cttactttc    780

tggtgcagaa agattgttgg gaacagacag gaaccaatgt gggaattcaa cttcaagttc    840

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ggtcggaaac tgcgcagtga acagggtgtg caagtcatcc tggacccagt gcacagcgtt     1140

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gccatgacca gtgctctgcc catcatccag aagctagagc cgcaaattgc agttgccaat     240

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accaaagggg cagtgactgg cagtgtggag aagaccaagt ctgtggtcag tggcagcatt     480

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gaagcaaaaa aagttgaagg atttgatctg gttcagaagc caagttatta tgttagactg     660

ggatccctgt ctaccaagct tcactcccgt gcctaccagc aggctctcag cagggttaaa     720

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gaatttgcca ggaagaatgt gtatagtgcc aatcagaaaa ttcaggatgc tcaggataag     840

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cactgtgctg agcaatttga gtcacgtact cttgcaattg cccgcaacct gactcagcag     960

ctccagacca cgtgccacac cctcctgtcc aacatccaag gtgtaccaca gaacatccaa    1020

gatcaagcca agcacatggg ggtgatggca ggcgacatct actcagtgtt ccgcaatgct    1080

gcctccttta aagaagtgtc tgacagcctc ctcacttcta gcaaggggca gctgcagaaa    1140

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ctgtcagatg atgaccccaa aaagggtata tggctggagg ctgggaaagc tttggactac     300

tacatgctcc gaaatgggga cactatggag tacaggaaga aacagagacc cctgaagatc     360

cgtatgctgg atggaactgt gaagacgatc atggtggatg actctaagac tgtcactgac     420

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444

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446

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ggacattcaa agcgtgtggc tggttccgtc actgagctca tccaggctgc tgaagccatg    6960

aagggaacag aatgggtaga cccagaggac cccacagtca ttgctgagaa tgagctcctg    7020

ggagctgcag ccgccattga ggctgcagcc aaaaagctag agcagctgaa gccccgggcc    7080

aaacccaagg aggcagatga gtccttgaac tttgaggagc agatactaga agctgccaag    7140

tccattgcag cagccaccag tgcactggta aaggctgcgt cggctgccca gagagaacta    7200

gtggcccaag ggaaggtggg tgccattcca gccaatgcac tggacgatgg gcagtggtcc    7260

cagggcctca tttctgctgc ccggatggtg gctgcggcca ccaacaatct gtgtgaggca    7320

gccaatgcag ctgtacaagg ccatgccagc caggagaagc tcatctcatc agccaagcag    7380

gtagctgcct ccacagccca gctccttgtg gcctgcaagg tcaaggctga ccaggactcg    7440

gaggcaatga aacgacttca ggctgctggc aacgcagtga gcgagcctc agataatctg    7500

gtgaaagcag cacagaaggc tgcagccttt gaagagcagg agaatgagac agtggtggtg    7560

aaagagaaga tggttggcgg cattgcccag atcatcgcag cacaggaaga aatgcttcgg    7620

aaggaacgag agctggaaga ggcgcggaag aaactggccc agatccggca gcagcagtac    7680

aagtttctgc cttcagagct tcgagatgag cactaaagaa gcctcttcta tttaatgcag    7740

acccggccca gagactgtgc gtgccactac caaagccttc tgggctgtcg gggcccaacc    7800

tgcccaaccc cagcactccc caaagtgcct gccaaacccc agggcctggc ccgcccagt     7860

cccgcagtac atcccctgtc ccctccccaa ccccaagtgc cttcatgccc tagggcccc     7920

caagtgcctg cccctcccca gagtattaac gctccaagag tattattaac gctgctgtac    7980

ctcgatctga atctgccggg ccccagccc actccaccct gccagcagct tccagccagt     8040

ccccacagcc tcatcagctc tcttcaccgt tttttgatac tatcttcccc cacccccagc    8100

tacccatagg ggctgcagag ttataagccc caaacaggtc atgctccaat aaaaatgatt    8160

ctacctacaa aaaaaaaaaa aaaaaaa                                         8187
```

<400> 359
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aacatggttc caaaactgtt cacttcccaa atttgtctgc ttcttctgtt ggggcttatg     120

ggtgtggagg gctcactcca tgccagaccc ccacagttta cgagggctca gtggtttgcc     180

atccagcaca tcagtctgaa ccccctcga tgcaccattg caatgcgggc aattaacaat     240

tatcgatggc gttgcaaaaa ccaaaatact tttcttcgta caacttttgc taatgtagtt     300

aatgtttgtg gtaaccaaag tatacgctgc cctcataaca gaactctcaa caattgtcat     360

cggagtagat tccgggtgcc tttactccac tgtgacctca taaatccagg tgcacagaat     420

atttcaaact gcaggtatgc agacagacca ggaaggaggt tctatgtagt tgcatgtgac     480

aacagagatc cacgggattc tccacggtat cctgtggttc cagttcacct ggataccacc     540

atctaagctc ctgtatcagc agtcctcatc atcactcatc tgccaagctc ctcaatcata     600

gccaagatcc catccctcca tgtactctgg gtatcagcaa ctgtcctcat cagtctccat     660

accccttcag ctttcctgag ctgaagtcct tgtgaaccct gcaataaact gctttgcaaa     720

ttcatc                                                               726
```

<210> 360
<211> 2848
<212> DNA
<213> Homo sapiens

<400> 360
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ccttctcccc ggcggttagt gctgagagtg cggagtgtgt gctccgggct cggaacacac      60

atttattatt aaaaaatcca aaaaaatct aaaaaaatct tttaaaaaac cccaaaaaaa     120

tttacaaaaa atccgcgtct ccccgccgg agactttat tttttttctt cctctttat     180

aaaataaccc ggtgaagcag ccgagaccga cccgcccgcc cgcggccccg cagcagctcc     240

aagaaggaac caagagaccg aggccttccc gctgcccgga cccgacaccg ccaccctcgc     300

tccccgccgg cagccggcag ccagcggcag tggatcgacc ccgttctgcg gccgttgagt     360

agttttcaat tccggttgat ttttgtccct ctgcgcttgc tccccgctcc cctcccccg     420

gctccggccc ccagccccgg cactcgctct cctcctctca cggaaaggtc gcggcctgtg     480

ccctgcgggc agccgtgccg agatgaaccc cagtgccccc agctaccca tggcctcgct     540

ctacgtgggg gacctccacc ccgacgtgac cgaggcgatg ctctacgaga agttcagccc     600

ggccgggccc atcctctcca tccgggtctg caggacatg atcacccgcc gctccttggg     660

ctacgcgtat gtgaacttcc agcagccggc ggacgcggag cgtgctttgg acaccatgaa     720

ttttgatgtt ataaagggca agccagtacg catcatgtgg tctcagcgtg atccatcact     780
```

```
tcgcaaaagt ggagtaggca acatattcat taaaaatctg gacaaatcca ttgataataa .   840

agcactgtat gatacatttt ctgcttttgg taacatcctt tcatgtaagg tggtttgtga     900

tgaaaatggt tccaagggct acggatttgt acactttgag acgcaggaag cagctgaaag    960·

agctattgaa aaaatgaatg gaatgctcct aaatgatcgc aaagtatttg ttggacgatt    1020

taagtctcgt aaagaacgag aagctgaact tggagctagg gcaaaagaat tcaccaatgt    1080

ttacatcaag aattttggag aagacatgga tgatgagcgc cttaaggatc tctttgggcc    1140

tgccttaagt gtgaaagtaa tgactgatga aagtggaaaa tccaaaggat ttggatttgt    1200

aagctttgaa aggcatgaag atgcacagaa agctgtggat gagatgaacg gaaaggagct    1260

caatggaaaa caaatttatg ttggtcgagc tcagaaaaag gtggaacggc agacggaact    1320

taagcgcaaa tttgaacaga tgaaacaaga taggatcacc agataccagg gtgttaatct    1380

ttatgtgaaa aatcttgatg atggtattga tgatgaacgt ctccggaaag agttttctcc    1440

atttggtaca atcactagtg caaaggttat gatggagggt ggtcgcagca aagggtttgg    1500

ttttgtatgt ttctcctccc cagaagaagc cactaaagca gttacagaaa tgaacggtag    1560·

aattgtggcc acaaagccat tgtatgtagc tttagctcag cgcaaagaag agcgccaggc    1620

tcacctcact aaccagtata tgcagagaat ggcaagtgta cgagctgttc ccaaccctgt    1680

aatcaacccc taccagccag cacctccttc aggttacttc atggcagcta tcccacagac    1740

tcagaaccgt gctgcatact atcctcctag ccaagttgct caactaagac caagtcctcg    1800

ctggactgct cagggtgcca gacctcatcc attccaaaat atgcccggtg ctatccgccc    1860

agctgctcct agaccaccat ttagtactat gagaccagct tcttcacagg ttccacgagt    1920·

catgtcaaca cagcgtgttg ctaacacatc aacacagaca atgggtccac gtcctgcagc    1980

tgcagccgct gcagctactc ctgctgtccg caccgttcca cagtataaat atgctgcagg    2040

agttcgcaat cctcagcaac atcttaatgc acagccacaa gttacaatgc aacagcctgc    2100

tgttcatgta caaggtcagg aacctttgac tgcttccatg ttggcatctg cccctcctca    2160

agagcaaaag caaatgttgg gtgaacggct gtttcctctt attcaagcca tgcaccctac    2220

tcttgctggt aaaatcactg gcatgttgtt ggagattgat aattcagaac ttcttcatat    2280

gctcgagtct ccagagtcac tccgttctaa ggttgatgaa gctgtagctg tactacaagc    2340

ccaccaagct aaagaggctg cccagaaagc agttaacagt gccaccggtg ttccaactgt    2400

ttaaaattga tcagggacca tgaaaagaaa cttgtgcttc accgaagaaa aatatctaaa    2460

catcgaaaaa cttaaatatt atggaaaaaa aacattgcaa aatataaaat aaataaaaaa    2520

aggaaaggaa actttgaacc ttatgtaccg agcaaatgcc aggtctagca aacataatgc    2580

tagtcctaga ttacttattg atttaaaaac aaaaaaacac aaaaaatagt aaaatataaa    2640
```

449

```
aacaaattaa tgttttatag accctgggaa aaagaatttt cagcaaagta caaaaattta      2700

aagcattcct ttctttaatt ttgtaattct ttactgtgga atagctcaga atgtcagttc      2760

tgttttaagt aacagaattg ataactgagc aaggaaacgt aatttggatt ataaaattct      2820

tgctttaata aaaattcctt aaacagtg                                         2848
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<210> 361
<211> 524
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (254)..(254)
<223> n is a, c, g, t or u

<220>
<221> misc_feature
<222> (257)..(257)
<223> n is a, c, g, t or u

<400> 361

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ttaataagcc aaaccccagg ggtgccggca tcttcctggc tgcttcctcc catggggtct      120

tgccctactg cagccccaaa tctttcctct ctcttcagac atcttggctt ccctgaccta      180

gacagtcctg actgatggtc cagcctcaat cccacttatt tttggctagg ccttcctggg      240

agtcataaaa gagntgnatc cattctagag gtgcacagcc tgtctcttcc ctcacaaatg      300

tcagtcccca agtcattctg atccaccttc ctaatatttt tgccacctcc aacttctttc      360

aagatgaaaa ggaaatgtag agaagcaagg wcagggtaga cacttaatcc cactgactgt      420

ctwtaatcca ctcttctccc tctcwacctg gatgatctcc acactcctat ccatactcag      480

atwcaggata tattgttccc ctatttatgt gctaagcact ttca                       524
```

<210> 362
<211> 2415
<212> DNA
<213> Homo sapiens

<400> 362

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cggcgccgcg agcttctcct ctcctcacga ccgaggcaga gcagtcatta tggcgaacct       60

tggctgctgg atgctggttc tctttgtggc cacatggagt gacctgggcc tctgcaagaa      120

gcgcccgaag cctggaggat ggaacactgg gggcagccga tacccggggc agggcagccc      180

tggaggcaac cgctacccac ctcagggcgg tggtggctgg gggcagcctc atggtggtgg      240

ctggggggcag cctcatggtg gtggctgggg gcagccccat ggtggtggct ggggacagcc      300
```

```
tcatggtggt ggctggggtc aaggaggtgg cacccacagt cagtggaaca agccgagtaa    360

gccaaaaacc aacatgaagc acatggctgg tgctgcagca gctggggcag tggtggggggg   420

ccttggcggc tacatgctgg gaagtgccat gagcaggccc atcatacatt tcggcagtga    480

ctatgaggac cgttactatc gtgaaaacat gcaccgttac cccaaccaag tgtactacag    540

gcccatggat gagtacagca accagaacaa ctttgtgcac gactgcgtca atatcacaat    600

caagcagcac acggtcacca caaccaccaa gggggagaac ttcaccgaga ccgacgttaa    660

gatgatggag cgcgtggttg agcagatgtg tatcacccag tacgagaggg aatctcaggc    720

ctattaccag agaggatcga gcatggtcct cttctcctct ccacctgtga tcctcctgat    780

ctctttcctc atcttcctga tagtgggatg aggaaggtct tcctgttttc accatctttc    840

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tcactctttc ttctctcttt gtcccggata ggctaatcaa tacccttggc actgatgggc    960

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tgagccgttg ctaatgccag gccagtaaaa gtataacagc aaataaccat tggttaatct   1080

ggacttattt ttggacttag tgcaacaggt tgaggctaaa acaaatctca gaacagtctg   1140

aaataccttt gcctggatac ctctggctcc ttcagcagct agagctcagt atactaatgc   1200

cctatcttag tagagatttc atagctattt agagatattt tccattttaa gaaaacccga   1260

caacatttct gccaggtttg ttaggaggcc acatgatact tattcaaaaa aatcctagag   1320

attcttagct cttgggatgc aggctcagcc cgctggagca tgagctctgt gtgtaccgag   1380

aactggggtg atgtttact tttcacagta tgggctacac agcagctgtt caacaagagt      1440

aaatattgtc acaacactga acctctggct agaggacata ttcacagtga acataactgt   1500

aacatatatg aaaggcttct gggacttgaa atcaaatgtt tgggaatggt gcccttggag   1560

gcaacctccc attttagatg tttaaaggac cctatatgtg gcattccttt ctttaaacta   1620

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tgtccattta cctggaaacc agaatgattt tgacatacag gagagctgca gttgtgaaag   1740

caccatcatc atagaggatg atgtaattaa aaaatggtca gtgtgcaaag aaaagaactg   1800

cttgcatttc tttatttctg tctcataatt gtcaaaaacc agaattaggt caagttcata   1860

gtttctgtaa ttggcttttg aatcaaagaa tagggagaca atctaaaaaa tatcttaggt   1920

tggagatgac agaaatatga ttgatttgaa gtggaaaaag aaattctgtt aatgttaatt   1980

aaagtaaaat tattccctga attgtttgat attgtcacct agcagatatg tattactttt   2040

ctgcaatgtt attattggct tgcactttgt gagtatctat gtaaaaatat atatgtatat   2100
```

```
aaaatatata ttgcatagga cagacttagg agttttgttt agagcagtta acatctgaag    2160

tgtctaatgc attaactttt gtaaggtact gaatacttaa tatgtgggaa acccttttgc    2220

gtggtcctta ggcttacaat gtgcactgaa tcgtttcatg taagaatcca aagtggacac    2280

cattaacagg tctttgaaat atgcatgtac tttatatttt ctatatttgt aactttgcat    2340

gttcttgttt tgttatataa aaaaattgta aatgtttaat atctgactga aattaaacga    2400

gcgaagatga gcacc                                                     2415
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<210>  363
<211>  1242
<212>  DNA
<213>  Homo sapiens

<400>  363
atttcatgtt atacttaata aaacaaaaca tacctgtata cacacacatt cactcacatt     60

gaagatgcaa gatgaagaaa gatacatgac attgaatgta cagtcaaaga aaaggagttc    120

tgcccaaaca tctcaactta catttaaaga ttattcagtg acgttgcact ggtataaaat    180

cttactggga atatctggaa ccgtgaatgg tattctcact ttgactttga tctccttgat    240

cctgttggtt tctcagggag tattgctaaa atgccaaaaa ggaagttgtt caaatgccac    300

tcagtatgag gacactggag atctaaaagt gaataatggc acaagaagaa atataagtaa    360

taaggacctt tgtgcttcga gatctgcaga ccagacagta ctatgccaat cagaatggct    420

caaataccaa gggaagtgtt attggttctc taatgagatg aaaagctgga gtgacagtta    480

tgtgtattgt ttggaaagaa aatctcatct actaatcata catgaccaac ttgaaatggc    540

ttttatacag aaaaacctaa gacaattaaa ctacgtatgg attgggctta actttacctc    600

cttgaaaatg acatggactt gggtggatgg ttctccaata gattcaaaga tattcttcat    660

aaagggacca gctaaagaaa acagctgtgc tgccattaag gaaagcaaaa ttttctctga    720

aacctgcagc agtgttttca aatggatttg tcagtattag agtttgacaa aattcacagt    780

gaaataatca atgatcacta ttttttggcct attagtttct aatattaatc tccaggtgta    840

agattttaaa gtgcaattaa atgccaaaat ctcttctccc ttctccctcc atcatcgaca    900

ctggtctagc ctcagagtaa cccctgttaa caaactaaaa tgtacacttc aaaattttta    960

cgtgatagta taaaccaatg tgacttcatg tgatcatatc caggattttt attcgtcgct   1020

tatttatgc caaatgtgat caaattatgc ctgtttttct gtatcttgcg ttttaaattc    1080

ttaataaggt cctaaacaaa atttcttata tttctaatgg ttgaattata atgtgggttt   1140

atacattttt tacccttttg tcaaagagaa ttaactttgt ttccaggctt ttgctactct   1200

tcactcagct acaataaaca tcctgaatgt tttcttaaaa aa                      1242
```

<210> 364
<211> 493
<212> DNA
<213> Homo sapiens

<400> 364

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gacatagatc tcttaaaggg aatttattgc ttccatggga gatttagata gatgttactg          60

agggattaag tagctgggcg gcttaaccca ggcatcctct taataggaa aaacctcctt          120

ttcaggaagg gaatcacaag gggccttggt gtctggaagc cacaactgga agcaggcctc         180

ggatgagtaa gaaggttccc accaaaatgg ccaagagggc cacagaaaac cccaggggc          240

aggacacagt ttttgtgagg tctggaataa gtgttggaat cttagggtcc cagtgtttta         300

gaagaaggtc atacaaggcc cagtggtcca ccttggagtt cttaatttca tctatcgaaa         360

ggaggaaggt gaggtgactg gtctttaaga aggaatgatt aatcctggag aggaagctgg          420

gttcagaaac accctctgtg actgagtggc cattgtctcg ccaggtgatg ttggacccaa         480

gagagaagaa gtt                                                              493
```

<210> 365
<211> 1587
<212> DNA
<213> Homo sapiens

<400> 365

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agcactctgc gcgcccgctc ttctgctgct gtttgtctac ttcctcctgc ttccccgccg          60

ccgccgccgc catcatgagg gaaatcgtgc acttgcaggc cgggcagtgc ggcaaccaaa          120

tcggcgccaa gttttgggag gtgatcagcg atgagcacgg catcgacccc acgggcacct         180

accacgggga cagcgacctg cagctggaac gcatcaacgt gtactacaat gaggccaccg         240

gcggcaagta cgtgccccgc gccgtgctcg tggatctgga gcccggcacc atggactccg         300

tgcgctcggg gcccttcggg cagatcttcc ggccggacaa cttcgttttc ggtcagagtg         360

gtgctgggaa caactgggcc aagggcact acacagaagg cgcggagctg gtggactcgg          420

tgctggatgt tgtgagaaag gaggctgaga gctgtgactg cctgcaggt ttccagctga          480

cccactccct gggtggggg actgggtctg ggatgggtac cctcctcatc agcaagatcc          540

gggaggagta cccagacagg atcatgaaca cgtttagtgt ggtgccttcg cccaaagtgt         600

cagacacagt ggtggagccc tacaacgcca ccctctcagt ccaccagctc gtagaaaaca         660

cagacgagac ctactgcatt gataacgaag ctctctacga catttgcttc agaaccctaa          720

agctgaccac gcccacctat ggtgacctga accacctggt gtctgctacc atgagtgggg          780

tcaccacctg cctgcgcttc ccaggccagc tcaatgctga cctgcggaag ctggctgtga          840

acatggtccc gtttccccgg ctgcacttct tcatgcccgg ctttgcccca ctgaccagcc          900
```

```
ggggcagcca gcagtaccgg gcgctgaccg tgcccgagct cacccagcag atgtttgatg      960

ccaagaacat gatggctgcc tgcgaccccc gccatggccg ctacctgacg gttgccgccg     1020

tgttcagggg ccgcatgtcc atgaaggagg tggatgagca aatgcttaat gtccaaaaca     1080

aaaacagcag ctattttgtt gagtggatcc ccaacaatgt gaaaacggct gtctgtgaca     1140

tcccacctcg ggggctaaaa atgtccgcca ccttcattgg caacagcacg gccatccagg     1200

agctgttcaa gcgcatctcc gagcagttca cggccatgtt ccggcgcaag gccttcctgc     1260

actggtacac gggcgagggc atggacgaga tggagttcac cgaggccgag agcaacatga     1320

atgacctggt gtccgagtac cagcagtacc aggatgccac agccgaggag gagggcgagt     1380

tcgaggagga ggctgaggag gaggtggcct agagccttca gtcactgggg aaagcaggga     1440

agcagtgtga actctttatt cactcccagc ctgtcctgtg gcctgtccca ctgtgtgcac     1500

ttgctgtttt ccctgtccac atccatgctg tacagacacc accattgaag catttcata     1560

gtgaaaaaaa aaaaaaaaaa aaaaaaa                                         1587
```

```
<210>  366
<211>  385
<212>  DNA
<213>  Homo sapiens
```

```
<400>  366
tcgatgtgaa tcttgttgtc caacaaccgc gtcaggcctg cttgctcggc cagggccatc       60

accgggacca ggcccgcgca ggacacgaga ttgtcctcgt cgaacacagc agagtcaggg      120

ccgaacgtgt gggacacttg cactggaagt gcctttcttg aaccggtcag atcgttgcgt      180

agagaacacc aatctttcca gttcagaggg cactttcatc attccgacac ccggacaacc      240

agcctgttta tcggtggatc aaggctaagc ccagcggttc gcaagcaact tgaaactcgg      300

catgtcctcc agaaacacca gcgcctcata gatccgctga tacccggggg ctggggatcc      360

gccaagcacc gtcctcatcc ttgcg                                           385
```

```
<210>  367
<211>  290
<212>  DNA
<213>  Homo sapiens
```

```
<220>
<221>  misc_feature
<222>  (283)..(283)
<223>  n is a, c, g, t or u
```

```
<400>  367
acatggctgg gggagggact gctgacccac caaggtctca cactcctcct gccagctctg       60
```

```
tcaccctggc caccacccaa cctgtcctta ctcagagctg cgggctgagg gcatctctga    120

gtgtctctgc ctgggagcag gggtggtttc tacggtgaca gtgacgtgac tcagagcttt    180

tcgaactgtg ctcccacggg gaccactggg cccttcaggg gaagctgcta ggggaaggac    240

tggcctggct ccagaatgtt gttgcctttt taagttttgt ttnttcacat              290
```

```
<210>   368
<211>   2161
<212>   DNA
<213>   Homo sapiens
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<400>   368
agtggagtgg cagccccaga actgggacca ccggggggtgg tgaggcggcc cggcactggg     60

agctgcatct gaggcttagt ccctgagctc tctgcctgcc cagactagct gcacctcctc    120

attccctgcg cccccttcct ctccggaagc ccccaggatg gtgaggtggt ttcaccgaga    180

cctcagtggg ctggatgcag agaccctgct caagggccga ggtgtccacg gtagcttcct    240

ggctcggccc agtcgcaaga accagggtga cttctcgctc tccgtcaggg tggggatca    300

ggtgacccat attcggatcc agaactcagg ggatttctat gacctgtatg gaggggagaa    360

gtttgcgact ctgacagagc tggtggagta ctacactcag cagcagggtg tcctgcagga    420

ccgcgacggc accatcatcc acctcaagta cccgctgaac tgctccgatc ccactagtga    480

gaggtggtac catggccaca tgtctggcgg gcaggcagag acgctgctgc aggccaaggg    540

cgagccctgg acgtttcttg tgcgtgagag cctcagccag cctggagact tcgtgctttc    600

tgtgctcagt gaccagccca aggctggccc aggctccccg ctcagggtca cccacatcaa    660

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cttgaagttg cttgagactt aagaggtcat gttgctttag gtttaataaa tagccttaac    1920

tatttggagg ggaaaagatg ggtcaacttt tttttttttt ttggcgtttg catgtacaac    1980

tttctatttt tagcctatat ttggaaagaa agcacttaac attttaggaa ttctttttaa    2040

agctgcttgc aaagtgttgg tgattttact gaaaactttt gagatcttca ttttacaggc    2100

agacctgtct aactacaagc cagacttggg ttttctcctg tagtttgaag acacactgac    2160

tcctgacaaa atgcagcctg caacttcctg agaacaact cagtgtcaca ttaaagttta    2220

ttatgtattt aatgatacac tgtttaattg acagttttgc atagtttgtc taactttaga    2280

gaattaagag cctctcaact gagcagtaaa ggtaaggaga gctcaatctg cacagagcca    2340

gttttagtg tttgatggaa ataagatcat catgcccact tgagacttca gattattctt    2400

tagcttagtg gttgtatgag ttacatctta ttaaagtcga aattaatgta gttttctgcc    2460

ttgataacat ttcatatgtg gtattagttt taaagggtca ttaggaaaat gcacatattc    2520

catgaatttt aagacccata gaaaagttga agaatgctta attttcttat ccagtaatgt    2580

aaacacagag acagaacatt gagatgtgcc tagttccgta tttacagttt ggtctggctg    2640

tttgagttct agcgcattta atgttaataa ataaaatact gaattttaaa gctgttaaga    2700

aattgtccag aacgagaata ttgaaataaa aacttcaagg ttataatcgc              2750
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<210> 373
<211> 1623
<212> DNA
<213> Homo sapiens

<400> 373
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agctggagta gtggcgtttg gaggagactc ggatatacct tctcagaagc tgcacaggag     60

gaaagcagtg acaaagaaag aagttgtcat tctttgcacg aaactggatg gcttctacag    120

ggagccaggc ctctgatata gacgagattt ttggattctt caacgatggc gaacctccca    180

ccaaaaagcc caggaagctg cttccaagct taaaaactaa gaagcctcga gaacttgtgc    240

tagtgattgg aacaggcatt agtgctgcag ttgcgcccca agttccagcc ctcaaatcct    300

ggaaggggtt aattcaggcc ttactggatg ctgccattga ttttgatctt ttagaagatg    360
```

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aggagagcaa aaagtttcag aaatgtctcc atgaagacaa gaacctggtc catgttgccc        420

atgaccttat ccagaaactc tctcctcgta ccagtaatgt tcgatccaca tttttcaagg        480

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tacttcagtc agttctccac ctgatggaaa atggagccct cgtattaact acaaattttg        600

ataatctctt ggaactgtat gcagcagatc aggggaaaca gcttgaatcc cttgacctta        660

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atgactatgc cgatcttcca gaatatttca gcgactgac atgtgagatc tccacaaggg       1080

gtacatcagc agggatggtg agagaaggtc agctaaatgg ctcatctgca gcacacagtg       1140

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taaggcccta ctacagacag tgtttaacaa gtaaacttac aagaacccaa cacaattccc       1260

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taatccttca taccacctgg ttcttgatat tctgccgcct gttcaagttc aagaataaaa       1380

gcgacagcag gacccaaatg cagctcccaa cccactcccc aggctagaca tgcttgtgtc       1440

cacacagcac accaatgtga tacttccact gaccggctgc agctctgcat gaaggactcg       1500

gggtctggat gccatggaat cactgtggct cttgttgcag ttttgtactc tatacttggt       1560

ttttcaatta agcttaatgg cttttttaaa acatgacttg aagctcaaaa aaaaaaaaaa       1620

aaa                                                                      1623
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<210> 374
<211> 2047
<212> DNA
<213> Homo sapiens

<400> 374
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gaaatggcag agaatggaaa aaattgtgac cagagacgtg tagcaatgaa caaggaacat        180

cataatggaa atttcacaga cccctcttca gtgaatgaaa agaagaggag ggagcgggaa        240

gaaaggcaga atattgtcct gtggagacag ccgctcatta ccttgcagta ttttctctg        300
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gaaatccttg taatcttgaa ggaatggacc tcaaaattat ggcatcgtca aagcattgtg      360

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caacagtatg tgcaacgtat agagaaacag tttcttttgt atgcctactg gataggctta      480

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ccacatatag cctcagttac attagctgct tatgaatgca attcagttaa ttttcccgaa      600

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ttgtggagta tcatctcaaa agttaggatt gaagcctgca tgtggggtat cggtacagca      720

atcggagagc tgcctccata tttcatggcc agagcagctc gcctctcagg tgctgaacca      780

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cactttctgg tacctttttg gaccttcttt ggtgcaaccc taattggaaa agcaataata     1020

aaaatgcata tccagaaaat ttttgttata ataacattca gcaagcgcat agtggagcaa     1080

atggtggctt tcattggtgc tgtccccggc ataggtccat ctctgcagaa gccatttcag     1140

gagtacctgg aggctcaacg gcagaagctt caccacaaaa gcgaaatggg cacaccacag     1200

ggagaaaact ggttgtcctg gatgtttgaa aagttggtcg ttgtcatggt gtgttacttc     1260

atcctatcta tcattaactc catggcacaa agttatgcca aacgaatcca gcagcggttg     1320

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tgggttctgc cttaaattgg gaggactcca agccgggaag gaaaattccc ttttccaacc     1440

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aatctggttg gtgtcttaca agtgagctga caccattttt tattctgtgt atttagaatg     1980

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aaaaaaa                                                               2047
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<210> 375
<211> 2939
<212> DNA
<213> Homo sapiens

<400> 375
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cccacgacca gtgaccagga gttaaacttt gggatgtgcc cgtgatgttg gaccacaagg     180

acttagaggc cgaaatccac cccttgaaaa atgaagaaag aaaatcgcag gaaaatctgg     240

gaaatccatc aaaaaatgag gataacgtga aaagcgcgcc tccacagtcc cggctctccc     300

ggtgccgagc ggcggcgttt tttctttcat tgtttctctg ccttttttgt gtgttcgtcg     360

tctcattcgt catcccgtgt ccagaccggc cggcgtcaca gcgaatgtgg aggatagact     420

acagtgccgc tgttatctat gactttctgg ctgtggatga tataaacggg gacaggatcc     480

aagatgttct ttttctttat aaaaacacca acagcagcaa caatttcagc cgatcctgtg     540

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acccgcactg ggagagcatg ctcaatgcca ccaccgcag gatgctttcc cacagctctg    1140

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cgaccgcaga ccaccgctca gccttcttct tctggggcct ccacgagctg gggagcacca    1500

gcgagacgga gaccggggag gcccggcaca gcctgtacat gttccacccc accctgccgc    1560

gcgtgctgct ggagctggcc aatgtctcta cccacattgt cgcctttgac gccgtcctgt    1620
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tccgcctggg tgagggtggg ccagacagtg accaagccat cagggaccgg ttctcccggc   1800

tgcggtacca gagtgaggcg tagaggcacg ccagccagag cctgtggaga gactccgcct   1860

gctgacacta aacgtcctgg gaagtgggcc cttccctggg tctctgcact gactccccca   1920

ctcctgaccc tggtgatggt cgccactggg cagcagcagc cttaccagtc ctccatgatc   1980

acacccaggg acctgcatgg gtgaggggac accctgggcc tctctcccgc ccagcatcct   2040

ccctgagtcc ccacacaggg cctcactctg caccccacca gggtcccgct cacaccaggc   2100

agccttcata gtggtctccc tggccacctt gggcagagct gggtcatgca gcaccccatc   2160

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cttcgtagcc aaagcagcct gatgacccac ccaccaagga agaaagcaga ataaacattt   2880

ttgcactgcc tgaaaaaccc cggtggtcag gcgtgagcct aaaaaaaaaa aaaaaaaa    2939
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<211>   1079
<212>   DNA
<213>   Homo sapiens

<400>   376
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acgctgcccc gcgtcgagga gcgccgcgac ggtaaggaca gcgcctcgct cttcgtggta   240

gcgcggatcc tagcggacct caaccagcaa gcgccggcgc cgccccggc ggagcgcagg   300
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gagggcgccg cggcccggaa ggcgaggacc ccctgccgcc tgccgccgcc cgcccccatg     360

agcccacctc ccccggcgct gaaggcgcgg cgagccgcgc cccccagccc ggcgtggagc     420

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gagcccggcc tcagacaaag ggtccggcgg ggccgaagtc gcgccgacct cgagtccccg     540

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tgcaacaaga agttcgcgcg ctccgacgag ctggcgcggc actaccgcac acacgggc     720

gagaagaagt tcagctgccc catctgcgag aagcgcttca tgcgcagcga ccacctgacc     780

aagcacgcgc gccgccacgc caacttccac ccgggaatgc tgcagcggcg cggcgggggc     840

tcgcggaccg gctccctcag cgactacagc cgctccgacg ccagcagccc caccatcagc     900

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aaaacaattt ttttcacctc aggtgtcaaa gtaaatttgt taaaaaaaaa aaaaaaaaa     1079
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<211>  346
<212>  DNA
<213>  Homo sapiens

<400>  377
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ccgcgaaaat tcggccaggg ttctcgctct tgtcgtgtct gttcaaaccg gcacggtctg     120

atccggaaat atggcctcaa tatgtgccgc cagtgtttcc gtcagtacgc gaaggatatc     180

ggtttcatta agttggacta aatgctcttc cttcagagga ttatccgggg catctactca     240

atgaaaaacc atgataattc tttgtatata aaataaacat tgaaaaaaa aaaaaaaaaa     300

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa                    346
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<211>  967
<212>  DNA
<213>  Homo sapiens

<400>  378
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gccctcctcc tggctgttct ccaaggagtc tgtgccgagg tgcagctggt gcagtctgga     120

gcagaggtga aaaagcccgg ggagtctctg aagatctcct gtaagggttc tggatacagc     180

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accatctcag ccgacaagtc catcagcacc gcctacctgc agtggagcag cctgaaggcc    360

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aaaaaaa                                                              967
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<211>  299
<212>  DNA
<213>  Homo sapiens

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cttgtcagca aggtcttgta ttctcacttt ataaagagg agattgagac tcagatctct     180

tggtgtcttt aattccaagt ccaaagagtt gcggagtctt ttgattccaa gtctgaattc    240

ctaatattta tttccttcct gaatgttgtg gtattacgt taaataagac cattctatt     299
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<210>  380
<211>  7561
<212>  DNA
<213>  Homo sapiens

<400>  380
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caaacactta cttggtgtgg aagacctgtt acagaagcac accctggttg aagcagacat    2040

tggcatccag gcagagcggg tgagaggtgt caatgcctcc gcccagaagt tcgcaacaga    2100

cgggggaaggt tacaagccct gtgacccca ggtgatccga accgcgtgg cccacatgga      2160

gttctgttat caagagcttt gccagctggc ggctgagcgc agggcccgtc tggaagagtc    2220
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ccgccgcctc tggaagttct tctgggagat ggcagaagag gaaggctgga tacgggagaa   2280

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acccttttcct ggggatgatt atgggcctcg gaggaggcat ggactttgac tccaagaagg   1140

cctacaggga cgtggcctgg ctgggtgaat gcgaccaggg ctgcctggcc cttgctgagc   1200
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tccttggatg gaagaaggag ctggaggacc ttgtccggag ggagcacgcc agcatagatg    1260

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ccccaaaact ggggtcccag caaccctggc ccccaacccc agcaaatctc taacacctcc    1560

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ccacacccag cgtagggggga gtctgagccg ggagggctcc cgagtctctg ccttcagctc    1860

ccaaagtggg tggtgggccc ccttcacgtg ggacccactt cccatgctgg atgggcagaa    1920

gacattgctt attggagaca aattaaaaac aaaaacaact aac                      1963
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<211>   4866
<212>   DNA
<213>   Homo sapiens

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acctgggtga acaatgctgc aaaaaaagaa gagtcagaaa ctgccaacaa aaatgattct    120

tcaaagaagt tgtctgttga gagagtgtat cagaagaaga cacaacttga acacattctt    180

cttcgtcctg atacatatat tgggtcagtg agccattga cgcagttcat gtgggtgtat     240

gatgaagatg taggaatgaa ttgcagggag gttacctttg tgccaggttt atacaagatc    300

tttgatgaaa ttttggttaa tgctgctgac aataaacaga gggataagaa catgacttgt    360

attaaagttt ctattgatcc tgaatctaac attataagca tttggaataa tgggaaaggc    420

attccagtag tagaacacaa ggtagagaaa gtttatgttc ctgctttaat ttttggacag    480

cttttaacat ccagtaacta tgatgatgat gagaaaaaag ttacaggtgg tcgtaatggt    540

tatggtgcaa aactttgtaa tattttcagt acaaagttta cagtagaaac agcttgcaaa    600

gaatacaaac acagttttaa gcagacatgg atgaataata tgatgaagac ttctgaagcc    660

aaaattaaac attttgatgg tgaagattac acatgcataa cattccaacc agatctgtcc    720

aaatttaaga tggaaaaact tgacaaggat attgtggccc tcatgactag aagggcatat    780

gatttggctg gttcgtgtag aggggtcaag gtcatgttta atggaaagaa attgcctgta    840
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aatggatttc gcagttatgt agatctttat gtgaaagaca aattggatga aactggggtg     900

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gaaaaaggat tccagcaaat cagctttgta aatagtattg caactacaaa aggtggacgg    1020

cacgtggatt atgtggtaga tcaagttgtt ggtaaactga ttgaagtagt taagaaaaag    1080

aacaaagctg gtgtatcagt gaaaccattt caagtaaaaa accatatatg ggttttattt    1140

aattgcctta ttgaaaatcc aacttttgat tctcagacta aggaaaacat gactctgcag    1200

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gctgaaataa ataatattat taaaatagtt ggtctacaat ataagaaaag ttacgatgat    1620

gcagaatctc tgaaaacctt acgctatgga aagattatga ttatgaccga tcaggatcaa    1680

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caggaacttt ccttctacag tattcctgaa tttgacgaat ggaaaaaaca tatagaaaac    1860

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gatgatgctg ccattacctt ggcatttagt aagaagaaga ttgatgacag aaaagaatgg    2040

ttaacaaatt ttatggaaga ccggagacag cgtaggctac atggcttacc agagcaattt    2100

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ctcttctcaa actcagacaa tgaaagatct ataccatctc ttgttgatgg ctttaaacct    2220

ggccagcgga agtttttatt tacctgtttc aagaggaatg ataaacgtga agtaaaagtt    2280

gcccagttgg ctggctctgt tgctgagatg tcggcttatc atcatggaga acaagcattg    2340

atgatgacta ttgtgaattt ggctcagaac tttgtgggaa gtaacaacat taacttgctt    2400

cagcctattg gtcagtttgg aactcggctt catggtggca agatgctgc aagccctcgt    2460

tatattttca caatgttaag cactttagca aggctacttt ttcctgctgt ggatgacaac    2520

ctccttaagt tcctttatga tgataatcaa cgtgtagagc ctgagtggta tattcctata    2580

attcccatgg tttttaataaa tggtgctgag ggcattggta ctggatgggc ttgtaaacta    2640

cccaactatg atgctaggga aattgtgaac aatgtcagac gaatgctaga tggcctggat    2700
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cctcatccca tgcttccaaa ctacaaaaac tttaaaggca cgattcaaga acttggtcaa   2760

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gagcttccag ttagaacttg gacacaggta tataaagaac aggtttttaga acctatgcta   2880

aatggaacag ataaaacacc agcattaatt tctgattata aagaatatca tactgacaca   2940

actgtgaaat ttgtggtgaa aatgactgaa gagaaactag cacaagcaga agctgctgga   3000

ctgcataaag ttttttaaact tcaaactact cttacttgta attccatggt acttttttgat   3060

catatgggat gtctgaagaa atatgaaact gtgcaagaca ttctgaaaga attctttgat   3120

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tctacaaagc ttaacaatca agcccgtttc attttagaga agatacaagg gaaaattact   3240

atagagaata ggtcaaagaa agatttgatt caaatgttag tccagagagg ttatgaatct   3300

gacccagtga aagcctggaa agaagcacaa gaaaaggcag cagaagagga tgaaacacaa   3360

aaccagcatg atgatagttc ctccgattca ggaactcctt caggcccaga ttttaattat   3420

attttaaata tgtctctgtg gtctcttact aaagaaaaag ttgaagaact gattaaacag   3480

agagatgcaa aagggcgaga ggtcaatgat cttaaaagaa aatctccttc agatctttgg   3540

aaagaggatt tagcggcatt tgttgaagaa ctggataaag tggaatctca agaacgagaa   3600

gatgttctgg ctggaatgtc tggaaaagca attaaaggta aagttggcaa acctaaggtg   3660

aagaaactcc agttggaaga gacaatgccc tcaccttatg gcagaagaat aattcctgaa   3720

attacagcta tgaaggcaga tgccagcaaa aagttgctga agaagaagaa gggtgatctt   3780

gatactgcag cagtaaaagt ggaatttgat gaagaattca gtggagcacc agtagaaggt   3840

gcaggagaag aggcattgac tccatcagtt cctataaata aaggtcccaa acctaagagg   3900

gagaagaagg agcctggtac cagagtgaga aaaacaccta catcatctgg taaacctagt   3960

gcaaagaaag tgaagaaacg gaatccttgg tcagatgatg aatccaagtc agaaagtgat   4020

ttggaagaaa cagaacctgt ggttattcca agagattctt tgcttaggag agcagcagcc   4080

gaaagaccta aatacacatt tgatttctca gaagagagg atgatgatgc tgatgatgat   4140

gatgatgaca ataatgattt agaggaattg aaagttaaag catctcccat aacaaatgat   4200

ggggaagatg aatttgttcc ttcagatggg ttagataaag atgaatatac attttcacca   4260

ggcaaatcaa aagccactcc agaaaaatct ttgcatgaca aaaaaagtca ggattttgga   4320

aatctcttct catttccttc atattctcag aagtcagaag atgattcagc taaatttgac   4380

agtaatgaag aagattctgc ttctgttttt tcaccatcat ttggtctgaa acagacagat   4440

aaagttccaa gtaaaacggt agctgctaaa aagggaaaac cgtcttcaga tacagtccct   4500
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aagcccaaga gagccccaaa acagaagaaa gtagtagagg ctgtaaactc tgactcggat    4560

tcagaatttg gcattccaaa gaagactaca acaccaaaag gtaaaggccg aggggcaaag    4620

aaaaggaaag catctggctc tgaaaatgaa ggcgattata accctggcag gaaaacatcc    4680

aaaacaacaa gcaagaaacc gaagaagaca tcttttgatc aggattcaga tgtggacatc    4740

ttcccctcag acttccctac tgagccacct tctctgccac gaaccggtcg ggctaggaaa    4800

gaagtaaaat attttacaga gtctgatgaa gaagaagatg atgttgattt tgcaatgttt    4860

aattaa                                                              4866
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<211>  319
<212>  DNA
<213>  Homo sapiens

<400>  387
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ggtgcctggc ccctgggggc cggcagctgc gatcactcca gccggtgtgg ttacagcccc    120

actgggctcc tccacccggg accttttgac ctcgggctct ccagtggaag aggcggaggc    180

agaggcggtg gtggcagtgg ctggggtgtg gtggccgtgg ccgcgacggc tgctgctggc    240

tccttgggcc ccacctcgca cacccgggtg accaccaccg gcgcggatga actcgcttgg    300

gtcgcaagga gctgcaaag                                                319
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<210>  388
<211>  408
<212>  DNA
<213>  Homo sapiens

<400>  388
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aaactttttt ttaaaaaaaa aaaaacgggg gggaaaaccc ctttgactta ccttccagta    120

gtcattcccc cctttttacgg gccaattcaa aaccttgttt tccggggggaa tgggacggaa    180

aattacattt ggacaacttt ttttcctttt atccccaact ttggccaaaa agcaaaaaaa    240

ggcctttttt ttataaaaaa agaataaatt ccccagggg tttttaaaaa aatttccccc     300

ccccggcccct ttaaaaggga aaaaacaag gactttttta aacccgaaaa ccccctttttt    360

ggggtttttt ttaaaaactt aaaaaacggg ggtttttttcc cccttaaa                408
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```
<210>  389
<211>  462
<212>  DNA
<213>  Homo sapiens

<400>  389
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gcaagggtca tgaaaaataa agttaatgga caactagagt aaaaatattt ttaacatatg       120

acaaggagct aataccccaa tatatacaga gctcagaagt tattatgaaa gacattaaca       180

tatagcaaaa caagcaatgg ccatgtggta tcacagaaaa ttctggaatt tcatatcaag       240

ggtgatagga ggctcttttg ttttagtgag acaatttttt ttttttttt tgagacacag        300

tctcgctctg tcacccaggc tggagtgaag tggtgcgatc tcggctcact gcaagctccg       360

cctcccaggt tcacgccatt ctcctgcctc agcctcccga gtagctggga ctacaggtgc       420

ccgccaccaa gcctggctaa tttttttgtat ttttagtaga ga                        462
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<210>   390
<211>   598
<212>   DNA
<213>   Homo sapiens

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tagctaattt tgtaggggac ctgattttta gtccagcttg gctggcaact aattttaggt       120

ctgtaaaggt tcagaaagca tatcctgaac acagccctc ctcagttacg ttatttaaag        180

tgttaaatac tcaagccaac cgaaacacaa accaaagtaa agaatttaga taagaaagac       240

atgtgaaaag gaggctactg gtaagtacag aactcagtta aatgtaaata attatgaatt       300

aattgtatta tctttttatt taaaaatcta ataaattctg atttttctct ccccaacttc       360

ctgtgatata actaagaaaa aacaaagaga aactagtttc tgtaaaactg gaaactccga       420

gaattcctca gtgatatgcc aggaaacagg aagaatttcc actagccaaa gttctgagga       480

agttacaggc aggaaaaaag ataagggtta ccatcttttt ttagtcaata aagctatgcc       540

cactctaggt actttcctta gaaacatgga gtcttcccag cagagaaagg aaagctag        598
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<210>   391
<211>   383
<212>   DNA
<213>   Homo sapiens


<220>
<221>   misc_feature
<222>   (341)..(341)
<223>   n is a, c, g, t or u

<220>
<221>   misc_feature
<222>   (346)..(346)
<223>   n is a, c, g, t or u

<220>
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<222>   (365)..(365)
<223>   n is a, c, g, t or u

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ttcacaatga acaagaactt aaccaaattt atctatcata ctaaagtatt tcagaaatga     120

atattgaaaa cagcctgtaa gttttcatcc aatatttaaa accacctcct ggaactaaaa     180

ttggtcttca aaaatcatgg gcgtattaac attttccaaa catgccctgc tggactagga     240

aggtcctgtt attctttctt ttgaacttcc cagtaagttt ccttgttccc tattcctagg     300

gtttaaagtg gcaaagggac tttttatgag gctattaggg ncaagntttc ttccattgga     360·

aaatnaaact tttggcggga aat                                            .383


<210>   392
<211>   573
<212>   DNA
<213>   Homo sapiens


<220>
<221>   misc_feature
<222>   (521)..(521)
<223>   n is a, c, g, t or u

<400>   392
gattgtataa ataatttatt tctgttcaca gcatcatata tgcattataa aaggctatgg      60

aaacaaaaga gaaggatgat gagacagaga attacagcag tagaaaggaa aacagaaacc     120

agggcacaca gttccaacac cagaacagag aatttgggaa gataattgct ctgaaacaga     180

actggcctcc ctgtgtctat tagaaaacat ttccaaagct cacggaggga ggccaacttc     240

ccctatggga aacccattca ctcgccaaag ggcagaaggc atcataaatc acccattgat     300

acattggtgg ggggctcctg tccccctggt gaccactcca aggtgatttg atctgtgctt     360

cctctgttgg gtcagagacg aaacgggcta ttattaggtc aaacattaca gaaatcaact     420

gagactctta actagtagtt gatacaccac agggctttac tttactgcac aattactaac     480

agttgattgc acccttaagt attgattatg caaaaaacaa natcatctcg catcagtttt     540

aaagcatgac agggtttgaa cagtgatctt gaa                                  573


<210>   393
<211>   497
<212>   DNA
<213>   Homo sapiens

<400>   393
cacacacata tcttttttatt tgagagttta aaaggaaatc tgaggtccag aggatcacag      60
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agcctcttgt tctgctatca aaggaccaat aagaagcaaa ctgatattac agggcaaatg      120

ttcccagaca gcccagcctg ctccccttag gaatgagtgt ccctggaggg ggagagcctg      180

gaaccaaagc cccgccagga actgcttccc ctaaactgag gttctctgaa aaaaatgttc      240

gcctggctga taaagccgcc tcttaacaga gcccagacac ttctgtgctt cccctgggtt      300

gctaattgag gacactaaag ccctaagaga taccccaggt cgggggaagg ggccccaaga      360

cctagacctc cggtggcgac catgcccttg agaggatggg agctgaattg gagcacgaga      420

ttatttatca tcgctggatg aagctccagc tagagctcag tatttcctct ttttctgggc      480

tcagacagac acagact                                                     497
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<210>    394
<211>    505
<212>    DNA
<213>    Homo sapiens

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aaagaatgag taaaatactg ctttgtccca aaggacaagc agaaaatgtt aaggcacaac      120

ggatgctcag aaaacgtaag aagctgaagg gaaaacacat catctgtgta ctcagacaca      180

cacactccaa cccatcacac gaacacaccc tcgcccgccc atcagagaag aattcgcctg      240

gaatcagctg ggggcggtgg ctcacgccta taatcccagc actttgggag gttgaggcgg      300

gcagatcatg aggtcaggag ttcacgacca gcctgaccaa catggtgaaa ccctatctct      360

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gaggctgagg caggagaatc gcttgagaca gaggttgcag tgagccgaga tgcgccactg      480

cactcctgcc tgggcaacag agcaa                                           505
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<210>    395
<211>    2283
<212>    DNA
<213>    Homo sapiens

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gggaaaaacc ctgcctttcc taactgcatg tattttttcc tttttggaaa ggtggtagag      120

actcagaagc tttccttgtt ttcttcaggc ctgctcccag ttttcttaac agtttctttt      180

gttgctttct ctctcccttg ttgctttcca tggcagtaat cctcctagag tccaagcagt      240

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ctcccactct agctgcctat ttttgctcat cagctggtga gtcagtatgg gccagcagtt      420
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ctccctccct aagcccttgc tactttatgg gttagctttg caggtttggt ggcttgaggg    480

gtggggcaa  ctcaccactg ccaggtaact ccctgaaggg tgggagtgga ttatcttcta    540

ggctcttacc cgcggtaggg aagggcatca acactgtctt ccttccattc tcctttcccc    600

catcccattt agtgctgcca cagggcagaa gcacacaaac caaccacaca gtctctgact    660

tctcctaagc actttgagtt gttgaatggg gctcaggggc aagagttttt gctgccctcc    720

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ttccccagaa gttgaactat ggatagcagc ttggtatgga tttcctaaat cttaacattt    840

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cacctcgcca atgttgttgt tgctgccttt ttgatttgta tcctctgtta tagacatttt    1260

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acaatgtcat attcaactct gttcatatta aaccactgtg aagcaagcct ctgttttcct    1440

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tcatacagtg tggccagtgt cctgaggtaa tgttttgcat ttaaattttt ttagaaagca    1560

gaatcttaac ttatcttaat gatatttacc tatccttttt gcaactcaca actgactttg    1620

tcacagaggt aatgcatctg cttgcaggaa gtagctgtag gctcagtacc tgttgtttga    1680

gtcagattta gcagatttgg tttttaagct tgtgggtttg tgctaatttg ggcagaatat    1740

atttattata tatgtgtgtg tgtatgtgtg tatgtgtgtg tctgcatatg taatacatgt    1800

acataaacac acatgcatgt gttcatcctc tgacacaccc acacaacacc aacaaacatt    1860

tcttctatag gcttttatc tcaactgaca ctgttttttt tcccaaataa atttgacaca    1920

ggcagaaagg tgggtgaact ctcagaactt ttggtgggtg gatattcatc tgaccagtga    1980

gctctgaaat ggtttcccta cacagagtgg gttttggcaa gggttggaat gaggggaggt    2040

agcagtcttg tcatttagaa aatcaagcta gttttgatgt agctcaacat ggaaagaagg    2100

tacagaaagt gatgtgttca aaacattagc aaattaaggc tgaatgtggt tggctcatgc    2160

ctgtaatccc agcattttgg gaggctgagg caggaggatt gcttgagccc aggaggttga    2220
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gactagcctg ggcaaccaga gtgagacact gtctctacaa aaatttcaaa aaaaaaaaaa   2280

aaa   2283

<210> 396
<211> 1634
<212> DNA
<213> Homo sapiens

<400> 396
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cttcccgggc taatccatgc cgggttggag gctgctgacg caggtcggcg cccaggtgct   120

gggtcgactc ggggacggcc tgggtgctgc cctgggcccg gggaacagaa cacacatctg   180

gctttttgtt agaggtcttc atggaaagag tggtacatgg tgggatgagc atctttctga   240

agaaaatgtc ccattcatta agcagttggt ctctgatgaa gataaagccc aattagcaag   300

taaactgtgt cctctgaaag atgaaccatg gcctatacat ccttgggaac caggttcctt   360

tagagttggt cttattgcct tgaagctggg catgatgcct ttatggacca aggatggtca   420

aaagcatgtg gtcacattac ttcaggtaca agactgtcat gtcttaaaat atacgtcaaa   480

ggaaaactgt aatggaaaaa tggcaaccct gtctgtagga ggaaaaactg tatcacgttt   540

tcgtaaagct acatccatat tggaatttta ccgggaactt ggattgccgc cgaaacagac   600

agttaaaatc tttaatataa cagataatgc tgcaattaaa ccaggcactc ctctttatgc   660

tgctcacttt cgtccaggac agtatgtgga tgtcacagcc aaaactattg gtaaaggttt   720

tcaaggtgtc atgaaaagat ggggatttaa aggccagcct gctacgcatg gtcaaacgaa   780

aacccacagg agacctggag ctgttgcaac tggtgatatt ggcagagtct ggcctggaac   840

taaaatgcct ggaaaaatgg gaaacatata caggacagaa tatggactga agtgtggag   900

aataaacaca aagcacaaca taatctatgt aaatggctct gtacctggac ataaaaattg   960

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attccctaca tattttcctg atggagatga agaggaactg ccagaagatt tgtatgatga   1080

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<212>   DNA
<213>   Homo sapiens

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gaaggacgcg gcgtctgggg agcacccagg cagcaagacg gggcccgggc tttcgacagt      180

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tctgatgtgt tggtttttga ctatacaaaa caccctgcta aaccagaccc aagtggagaa      780

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ccttgggtca tttgctcagt gtctgaggat aacatcatgc agatatggca aatggctgaa    1500

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agggtattgc ctttgattca actgttttaa gtcctcattt tctcaaacta agtgcttgct    1860

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<210> 398
<211> 594
<212> DNA
<213> Homo sapiens

<400> 398
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aaggagaagc tcccgcggta ctacaagaac atcggtctgg gcttcaagac acccaaggag    180

gctattgagg gcacctacat tgacaagaaa tgccccttca ctggtaatgt gtccattcga    240

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cgagactatc tgcactacat ccgcaagtac aaccgcttcg agaagcgcca caagaacatg    360

tctgtacacc tgtcccctg cttcagggac gtccagatcg gtgacatcgt cacagtgggc    420

gagtgccggc tctctgagcaa gacagtgcgc ttcaacgtgc tcaaggtcac caaggctgcc    480

ggcaccaaga agcagttcca gaagttctga ggctggacat cggcccgctc cccacaatga    540

aataaagtta ttttctcatt ccaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa           594
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<210> 399
<211> 2141
<212> DNA
<213> Homo sapiens

<400> 399
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tgggtcttcg cccaggtggc cggcgcttca ggcactacaa atactgtggc agcatataat    240

ttaacttgga aatcaactaa tttcaagaca attttggagt gggaacccaa acccgtcaat    300
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cctctgtatg agaactcccc agagttcaca ccttacctgg agacaaacct cggacagcca    540

acaattcaga gttttgaaca ggtgggaaca aaagtgaatg tgaccgtaga agatgaacgg    600

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gtactacaac caattccaag ttttaatttt taacaccatg gcaccttttg cacataacat   1260

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tgagacggag tcttgctctg ttgcccaggc tggagtgcag tagcacgatc tcggctcact   1440

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gaaattcaaa acaattgggc aaactttgta ttaatgtgtt aagtgcagga gacattggta   1860

ttctgggcag cttcctaata tgctttacaa tctgcacttt aactgactta agtggcatta   1920

aacatttgag agctaactat atttttataa gactactata caaactacag agtttatgat   1980

ttaaggtact taaagcttct atggttgaca ttgtatatat aatttttaa aaaggttttt    2040

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<211> 1102
<212> DNA
<213> Homo sapiens

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cctcagacct tccagatcgc ttcctctcgc aacaaactat ttgtcgcagg aataaagatg   180

gctgctgaac cagtagaaga caattgcatc aactttgtgg caatgaaatt tattgacaat   240

acgctttact ttatagctga agatgatgaa aacctggaat cagattactt tggcaagctt   300

gaatctaaat tatcagtcat aagaaatttg aatgaccaag ttctcttcat tgaccaagga   360

aatcggcctc tatttgaaga tatgactgat tctgactgta gagataatgc accccggacc   420

atatttatta taagtatgta taaagatagc cagcctagag gtatggctgt aactatctct   480

gtgaagtgtg agaaaatttc aactctctcc tgtgagaaca aaattatttc ctttaaggaa   540

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gtcccaggac atgataataa gatgcaattt gaatcttcat catacgaagg atactttcta   660

gcttgtgaaa aagagagaga cctttttaaa ctcattttga aaaagagga tgaattgggg   720

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cgcagtggct cacgcctgta atcccagccc tttgggaggc tgaggcgggc agatcaccag   840

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gcaggagaat cacttgcact ccggaggtag aggttgtggt gagccgagat tgcaccattg   1020

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caaataaaaa attcataatg tg   1102

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<211> 1437
<212> DNA
<213> Homo sapiens

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catggttact ggttccggga aggagccatt atatccgggg actctccagt ggccacaaac   240

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catgtgacag acttgaccca caggcccaaa atcctcatcc ctggcactct agaacccggc     480

cactccaaaa accttacctg ctctgtgtcc tgggcctgtg agcagggaac accccgatc     540

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gaatactcag aggtcaggac ccagtgagga accctcaaga gcatcaggct cagctagaag    1140

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acacaagctc cttaaccttc catgtctcca ttttcttctc tgtgaagtag gtataagaag    1380

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<212>  DNA
<213>  Homo sapiens

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gcggggacgg cgggcgcaga agtgggccac catatctgga aactacagtc tatgctttga     180

agcgcaaaag ggaataaaca tttaaagact cccccgggga cctggaggat ggacttttcc     240

atggtggccg gagcagcagc ttacaatgaa aaatcagaga ctggtgctct tggagaaaac     300

tatagttggc aaattcccat taaccacaat gacttcaaaa ttttaaaaaa taatgagcgt     360

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atagctgtca cgggagcagg gaggcttccc tgcaaacaga tcatccatgc tgttgggcct     720

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cgggttagtt tgcaagggaa gccaatgatg agtaatttga aagaaattca cctggtgagc .    960

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<213>  Homo sapiens

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gattttctga aacgaaagcc ttgtctgaaa ccaattaata cttgggaaac agctgggctt   1260

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gagaccttac ataacctagc cttgcagggc cgccacacaa ccctggagtc ctagagttgg   1560

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gggaacactc tgatacactg ggaagtatcg gaaattccca gaaacacaaa cataaaataa   1740

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ggtacaaaat gctatttgtt cgtcatactg ttgtcagcag atgagccgcc cactacagac   2160

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gaaatcattc attaattgtg cctccttcaa agaaccctca aaatcctact gacctgtatg     180

acactgtcac agataatgtg caccatccaa gtttatttgt ggcattttat gactaccaag     240

catacccaga gtaccttatt acgtttagaa ataacactt tggtatcctt cccacaaaat     300

tattctccat ttgtacatat ctagttgtaa aacaagtttt agcttttttt ttaattcctc     360

ttaacagatt tttctaatat ccaaggatca ttctttgtcg ctgcagtcag tctttcttca     420

gcttctcttt cataatggaa atgaacttat tatcttgaga gcaaataact tggaaaattt     480

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gagcacagta ttacccagtg ggtagggctt ctgtcttccc tgggagcagg gatggtatct     720

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aatgaactct aagattatta aatagtatat tttccttgac agcctagcgt ttgatgattt    1560

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gagtgcaaga agcttccttg cctgagatca cctagaaagg aaccctcaga gccggcaact    1860

gaatcttggt ccctgtgatg tcaagcccat tgctctccca ctgcagaaca tggcctctag    1920

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agtgtatcgc actgaagaat aataatccat tcagtaatgt tatagttatc ctcagtctaa     2460

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<213> Homo sapiens

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gggttttcct agactatgag gcaggcattg tctcattttt caatgtcaca aaccacggag    180

cactcatcta caagttctct ggatgtcgct tttctcgacc tgcttatccg tatttcaatc    240

cttggaactg cctagtcccc atgactgtgt gcccaccgag ctcctgagtg ttctcattcc    300

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ctctactgag accatctctt cctttctttc cccttctttt acttagaatg tctttgtatt    420

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tgccgtactg tgggctggaa atcccaaatc tagattccag cagagttggt tctttctgag    540

gtctgcaagg aagggctctg ttccatgcct ctctccttgg cttgtagaag gcatcttgtc    600

cctatgactc ttcacattgt ctttatgtac atctctgtgc ccaagttttc ccttttatt     660
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aagacaccag tcatactggc tcagggccca ccgctaatgc cttaatgaaa tcattttaac    720

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aaaaactcca acatataaat ttgaggaagg cacgatttca ctcataacaa tcttaccctt    840

tcttgcaaga gatgcttgta cattattttc ctaatacctt ggtttcacta gtagtaaaca    900

ttattatttt ttttatattt gcaaaggaaa catatctaat ccttcctata gaaagaacag    960

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tgatcacttt gagaaacaaa cttttattaa atgtaaggca cttttctatg aattttaaat   1380

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a                                                                   1441
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<211> 620
<212> DNA
<213> Homo sapiens

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<223> n is a, c, g, t or u

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<223> n is a, c, g, t or u

<220>
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<222> (589)..(589)
<223> n is a, c, g, t or u

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ttgtgtcagt cagcttgcat tcagtcgtga tcttttagca agtcagaatg aagatttgga    180

taaccagagc accattgcct gcttccttct tcctgaagga aggggtccac ccttcacaat    240

taaagtcctg gcactgagcc acattcagag gaggctgatc tatgcccttc caataccagg    300
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aagtttacaa accaccagaa caaggttttg cttcaggata gtgtttgact tcactgctgc    420

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accccaagg gacccgcaga cccttaaaaa aatcacccac aaccctctgg aagtggcctt       1440

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<212>   DNA
<213>   Homo sapiens

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<212>   DNA
<213>   Homo sapiens


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<223>   n is a, c, g, t or u
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tgcagagaca gagtggtaga agagtctgag ctggcacgaa cagcaggcta tgggatcaac     480

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aaccgggatc gggatggaaa cactctgaca tactaccgaa gaccttggaa cgtggcttct     600

ttgatctatg aaaccaaagg cgagaaaaat ttcagaaccg aacattacga agaacaaatt     660

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gttggtttaa aaaacttcaa agtaattttc aaacggcttt gtatggttaa catattctgc    2040

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tgttcagtag cagaatagaa tgaacataaa ctattagttt aaattatgtg aaattccttc    2400

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<213> Homo sapiens

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gcggtccagc ggtcgggcca gggtcgtgcc gccggcgggt cgggccgggc aatgcctcgc    180

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aaagcagaca ccgtcactgc caccttccct cccaggactc cggccaaggt ttccagtact    420

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cctggcaaag aagggcaagc tacagaaaga ggcaggaaca ccccctttgt ggaaaatcgc    780

ggtctccact caggcttgga accagcacag cggagtggta agaccagacg gtcatagcca    840

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502
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tgaagacagc aactccacat ctgccttgga agatcctctt gagtttttag acatggccga    1080

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gcaggatgca gctatgaaag ccatgacaat tctgctagag gaagccaaag ccaaggacag    1920

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gtcccagacc cccaccccct cagccacatc cttcttttct gggaagagcc ccgtcaccac    2040

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aggccctgcc catgaaccca gttccaata ctgtgttgca gtgggagccc aaactttccc    2160

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gctgcgcact gcgcagcacg cgtcgcttcg tgatgctgcg agataactcg ggggacccgg      720

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512

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513

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514

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<213> Homo sapiens

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gacgcttcgg atctgggtct accagagtgg gtgctaggag ctctggccaa agcgcgtacc   180

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agtagaactg gccaaggatc attctgactt aagcagattg actgagctct ccttgaggag   480

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518

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<212> DNA
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ccttatcatc agcaggaagg ggaaagcatg acattcgacc ctagactgga tcacgaagga   840

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aaggaaaatg ttgttgattc ttggttttgg attttgtttt gttttcaatg ctagtgttta     5520

atcctgtagt acatatttgc ttattgctat tttaatattt tataagacct tcctgttagg     5580

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cctcactgaa aacatatatt tcacgtgttc cctctctttt ttttcctttt tgtgagatgg     5940

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535

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actctgcgtg tacaatcttc catatccgca agttcactgg cactcttctg gcacctgggc     180

aagatcccag aacagaggat ggagtgactg gcctcacaga gcttagtgcc cgactcaggg     240

gaaatgggac tggtgcatgg gaaatggtca gcctaggata ggacacgaga gtctgaaatt     300

caaagcaacc agcttgaagt ggtttgagaa gctggaagca aacatgggct agagagatag     360

ggcagaagtc aagacgagga tctggactga tgtggagaca agtagccacg gaagcatgaa     420

ctgtatcctg cacaaagtcc ctcttccccg cctcctaatt cattatgccc aaaagtgctt     480

acgtgaaatt ccagcccaga gtactcatga cttgagagac gtggacggag ccagcttcta     540

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536

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ggagatgtga aagtgaaaaa agagagagac tcgtgacttt tccggtttca gaaaaaccca      480

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caagacaagg gaaatgtaga cttcataaac atggctgtat aattttgatt tttttttgaat     600

acattgtgtt tctatatttt ttttgacgac aaaaggtatg tacttataaa agacattttt      660

                                                                      684
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<213>  Homo sapiens
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<213>   Homo sapiens

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cattgtcctc cgagggtcca acggtgaccc ccccgctgc gcacgcgccc ggccaccggt      360

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ggcttccgga gctgtatttg cagttttgtg ttgggttttc taaaataata ttcttacaaa    1860

gtattttttt acctgttatg ccctgtttgc aaaaacaatt tagaaaaaaa caacaaagca    1920

aaacctatct tggcaaaaaa aggaagtgag tcagagccca ttttcaggag gcattggtga    1980

tgttcggctc acatattgtt tgcagacaca caagaaatct ggcttggcca ggattggcac    2040

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atataggtat tttagtacag tacatacttg cattacatag gtacttcaag caacacaata    2700

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aaaaaaag
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<213>  Homo sapiens

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cgcctttacc agctcgagcc tgcagccccc caggccgcgc cgtcctcggc tcccccgggc    240

agcgccgggg ttttgtcagg cgcgcgctgc tgtttgcctg gattgcgctc attctgaccc    300
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accgcgctaa agtcccacgc acgacggcgc ccgccggcga gtccacgccc gcacgtcggc   420

gcatgcgcgc ggccaagccg gtgcccgcgc ccaccagcgc gcatgcgcgc ccgtccctt   480

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<213>   Homo sapiens

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tgcccaaaaa aaagtcctcc aggggggct ggtagccggg gttcaccagt ttggtcacca   180

ttttgaaaaa aaaggggag tagtacttga aggtgttgta ggactgctgc atgagtgcaa   240

agttggggtg ctttgccccc cgcgggcccc caggggccc ccaggcctgg gaaataacct   300

ggctgcggaa cttgaccaca aggttaaaaa tgctggggat gactttaatg acgggccccg   360

ccttttccgg gagcaggccc ctgaaaacgg ccttgtgcag gtactttggg tgcccacgct   420
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<212>   DNA
<213>   Homo sapiens

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ttttttcccc ccaaaattct gggctttttgg ggaaaaaaaa aagggggccc ttgaaggggg   120

ggggaaaccc aaagggccc ccccaaaacc cccaggggggg gggggaccc ccaaaacccca   180

ggggagggcc cctcaggccc aaattccaaa ggggttttgg ggggaacccc cccccaaac   240

cccacccttg ggaaggggg ggcccccaa aatttaaaat ttccccaaa cccaaaagga   300

acccaaatgg ggggggaaac gggggggctca ttttttgggg ggggcccccc aattccaaaa   360

aaacgggaaa agcacatggg gcccccctttt ttcccaggg ggggaaggg gggacccta   420

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catcggtgac ttcatggatc atgatctttc agcgcagcaa cctgctgcgt gccggtcgac   240

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<212> DNA
<213> Homo sapiens

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ggcccaaacc cccttcctgt ttgcgtgatg ggaaccccccc caccccccgg ggccccccgga   180

acccccctgcc ccaaggaaat ggttcccccct ctcccccccca tgaccagctc ctggtcattc   240

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<212> DNA
<213> Homo sapiens

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caaaactcct tataagggct gcccaaacag ctatccaacc cctcaatttg gttggattcc   180

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<212> DNA
<213> Homo sapiens

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tgagtgctgg tggacagtgc ccctcccacc ttccttcttc cccacaacag aagagaccag   480

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gaccttccct caacagagga cactgagccc aacggagttc tgggatggga ggggtgggag   600

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aaaaaaaaaa a

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<211> 2787
<212> DNA
<213> Homo sapiens

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543

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<213> Homo sapiens

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<213> Homo sapiens

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<211> 261
<212> DNA
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<400> 454
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<211> 399
<212> DNA
<213> Homo sapiens

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ccctgaaccc ccggcccggg ggaaaaaggc ttcctacccg gttcggttca cccctggggg   180

gaacccaccc ggggggtgg gcccacccc cacagttcac ctaaaaccct cccaagcggg   240

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gcaggcgaca aaggcgggga attaaccaaa aaacaaaaac ccccccagga aatttttta    300

aaaaccccc aaagtttggg gcccccaag tcccaccccc aaaggccggg agggggggga    360

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<212>   DNA
<213>   Homo sapiens

<220>
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<223>   n is a, c, g, t or u

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actatgatgt ttggaaactg tctgccctca gggattcctg gccgcttctc tggctcaaag    180

nctggggcct cagcctccct gactatctcg ggcctctagc ctgaggacga ggctgattat    240

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<212>   DNA
<213>   Homo sapiens

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tggagaggcc ctgtactccg ctctttgatg ccacctgacc tggaccagcc ctccacgctg    180

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tgtctctact ttcctccaac ctcaaaagca ccccaccac acacctccta ccccagtagc     180

tgggactgca gcaggcacac accaccacac ccggctagtg tgtgtgtatt ttttttttt    240
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gggccaaat                                                            309


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<212>   DNA
<213>   Homo sapiens

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ttagtttgaa tttgccatgc aggttctccc cgatgtaccc cacagcttca gccagtatcg   1200

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gccctgatga ctacattcca atgaactcag gaagcatctc aagcccgttg cctgagctgc   1320

ctgcaaacct ggaacctccc ccagtgaata gagatctcaa gcctcagagg aaatcacggc   1380

cacctcctct ggacctgaga aacctctcga tcatccggga acatgcatct cttaccagga   1440

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gggcttgtgc catgtgtgaa acagggaagc ttggggctca gtttgagttt tttctttttt   1860

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tgtgtagttt tcaaggtctt ggccagaacc tttaggaaag aagacctgtt tatacattga   1980

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gactccaata cctgaaattc tgacttctct cctgtgcttc aatgagaatg ataaattatc   2160

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aagcccagca atggtggcag aatcttactc cacagacttc agcagactag tcatttcaat   2280

acccaaagaa agacaagtga caggggcaat ggatctcagg ctctgagata agtatatcag   2340

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aacactttgc ccaagattac tcacaaagcc aagacccaga gtccagctta gagaatagag   2580

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gagattgtgt cttctttatg aggatagatc aaattggcag tcaggcccat gatagtcagt   3240

gcagttgggg cagttgtaga ctttgctaca ggatttcagg gtttccaatc accccacagg   3300

taagtgaatg ccaaagtctt ctttttttcag accatacaag aagtcatttt gattttcaaa   3360
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gaagccgttt tgattttcaa agaagcaggt tctggtgaca ttattttctt ccttggacaa   3420

agtggggggа aatttctaag tattttaact gagttcaggg tccttagtga gcctggacag   3480

agcaaggaga gggctcccca ctccctaagc cccacagcca gttctgcatc accacacaca   3540

gccagagcct gtgaggagct gccttcttcc ccatgtgact tgcaaagagt ctcaggcaag   3600

aaaccagggc ttcaaactgc tagttcccat ggagggtagt tccctcgtgt ggagcacttg   3660

tgttaggatc actgattatc tgacaaaggc tggtgcagaa aaaaaattgt aggcccaagt   3720

gtcaagaacc acaccagatt ggagatagaa aagaatagct gaaattatgt cagtggtgaa   3780

atgtcactcc attgacccac cgaaaaaaga aaagaaatct gtttctacca aacatttcca   3840

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acttaaaaat ggaatgctct gaataggcac tctctacatt aaaggtatgg aaggcgatag   3960

gggtcagaat tttaaaaatt taattttgaa aaaggtgact caccctcat ttccagagtg   4020

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gcataacagg gcaatgcagc aattaacccc acatcgtttt ctgtagttcc tttttgtttc   4320

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ggagttaagc tttccttggg gagggaagag ccttgatgtc cagcacacag cctggctata   4500

aagacacgaa gcgacctacc cactgtacag tccacttcac aggatcagct gaatcatgac   4560

ctttaaaagt tccgagttga aactgaaggc tctcctcaga cctggctttt tcctcagtcc   4620

ctgttcatac catctctgca cccacaatca cactgatttt tcaaattcat tttgtttttg   4680

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<213>  Homo sapiens

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gcatctaggc catcatactg ccaggctggt tatgactcag aagatgttat ctga         174
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<212>   DNA
<213>   Homo sapiens

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cgtgctggcg gcggcggcgg cggcggcggc ggcgctgctc ccgggggcga cggcgttaca    180

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aaagtcatca cctggccttg gtcctgtgga actggcagct gtcattgctg gaccagtgtg    480

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ccatcgagtg ccaaatgaag aggacccttc attagatcgc cctttatttt cagagggtac    600

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gcttgttcag agaacaattg cgagaactat tgtgttacaa gaaagcattg caaaggtcg     720

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tcttcacatg gagattgttg gtacccaagg aaagccagcc attgctcata gagatttgaa   1080

atcaaagaat atcttggtaa gaagaatgg aacttgctgt attgcagact aggactggc    1140

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aaaaaggtac atggcccctg aagttctcga tgattccata aatatgaaac attttgaatc   1260

cttcaaacgt gctgacatct atgcaatggg cttagtattc tgggaaattg ctcgacgatg   1320

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ttcagatctg ctcctgggtt ttaatttggg aggtcagttg ttctacctca ctgagaggga   1680
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acagaaggat attgcttcct tttgcagcag tgtaataaag tcaattaaaa acttcccagg    1740

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tcccaggaca gaaaatgtgt agtctacctt tatttttat taacaaaact tgtttttaa     1860

aaagatgatt gctggtctta actttaggta actctgctgt gctggagatc atctttaagg    1920

gcaaaggagt tggattgctg aattacaatg aaacatgtct tattactaaa gaaagtgatt    1980

tactcctggt tagtacattc tcagaggatt ctgaaccact agagtttcct tgattcagac    2040

tttgaatgta ctgttctata gttttcagg atcttaaaac taacacttat aaaactctta    2100

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tgtatactat tattgttctt tcacttattc agaacattac atgccttcaa aatgggattg    2220

tactatacca gtaagtgcca cttctgtgtc tttctaatgg aaatgagtag aattgctgaa    2280

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agtctctatg ttaaaaccta tagtgttt
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<211>  1222
<212>  DNA
<213>  Homo sapiens
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tcactgcata cattgtggaa ggtgtaggga gtgaagtctc agataagagg acctgtgtga   120

gcctcactac ccagcgactg ccggttagca gaatcaagac ctacaccatc acggaaggct   180

ccttgagagc agtaattttt attaccaaac gtggcctaaa agtctgtgct gatccacaag   240

ccacatgggt gagagacgtg gtcaggagca tggacaggaa atccaacacc agaaataaca   300

tgatccagac caagccaaca ggaacccagc aatcgaccaa tacagctgtg actctgactg   360

gctagtagtc tctggcaccc tgtccgtctc cagccagcca gctcatttca ctttacacgc   420

tcatggactg agtttatact cacctttat gaaagcactg catgaataaa attattcctt    480

tgtatttta cttttaaatg tcttctgtat tcacttatat gttctaatta ataaattatt    540

tattattaag aatagttccc tagtctattc attatattta gggaaaggta gtgtatcatt   600

gttgtttgat ttctgacctt gtacctctct ttgatggtaa ccataatgga agagattctg   660

gctagtgtct atcagaggtg aaagctatat caatctctct tagagtccag cttgtaatgg   720

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caacttgtct ctataataga attctgttta tagaataagg gagaaaataa tccagtcttc   840

actgggttcc cattctgagg gtccactact caaaaatttg cttcactcaa ttttttttcac   900

ctctttgtgt tttattttgg tgtcctatta aaggaataaa atgacacaac ttgtcccttt    960
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tttgtcccat tagcaaaaat tagaattttg gtataaagaa actttattca agtaaaaatc   1020

aatacccttt gaattggaca ataatctcac taccttatta ggatttctgt atttgccatt   1080

acgctagtta tcatgcatgt tatgctttac tgcgaataag cttttaatgc tccaaatgct   1140

gacccatgca atatttcctc atgtgatcac aatttgcagt aaactttaa ttaaatgctc    1200

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<210> 463
<211> 928
<212> DNA
<213> Homo sapiens

<400> 463
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atactatagt aacttttagg cgtgggtgta gaagtttata ggtttctatt gacagttatt   180

gtaaattagc atttactgtg gtacaaattc tttataactg acttagtcat ttgccgctta   240

gcagtttata tactgaaatg aaaacatctt gtggggaaaa gtgactttag attatgaact   300

caattcaaat gaactctatt taaaatgggg tcctattttg gacaaaggaa attaagaatg   360

taaaagtcag aacagtcttg aggtaaaaag tgtgctttgg cttaaaaggg atacagtata   420

ttaattacat ctttttattat tattgtttat ttcttagaat catttctggc tttctcaaaa   480

caaaataata ttaatgagta cttctatttg ctgcattttt cttattacag cctttgagac    540

agctggtaat tataagtcat tttccatttt ttaaaacata attttataaa gaattctctt    600

atctcgacta tgtagaatag cacctactgg acagaacaat ttttgtatcc aaaactggca    660

tttcttagag atgggttgga ggagtacact atggtttaag ttgggtaaaa tgcaacactg    720

tgtccttgga acccgttttt tgtggtaagc gatgtaatgt gaagttttaa gtatgggata    780

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<210> 464
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<212> DNA
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<400> 464
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actttttttcc ctttattact gttgtagtcc ctcacttgga tatacctctg ttttcacgat   120
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558

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agaaataagg gaggtctaga gcttctattc cttggccatt gtcaacggag agctggccaa     180

gtcttcacaa acccttgcaa cattgcctga agtttatgga ataagatgta ttctcactcc     240

cttgatctca agggcgtaac tctggaagca cagcttgact acacgtcatt tttaccaatg     300

attttcaggt gacctgggct aagtcattta aactgggtct ttataaaagt aaaaggccaa     360

catttaatta ttttgcaaag caacctaaga gctaaagatg taattttct tgcaattgta      420

aatcttttgt gtctcctgaa gacttccctt aaaattagct ctgagtgaaa aatcaaaaga     480

gacaaaagac atcttcgaat ccatatttca agcctggtag aattggcttt tctagcagaa     540

cctttccaaa agttttatat tgagattcat aacaacacca agaattgatt tgtagccaac     600

attcattcaa tactgttata tcagaggagt aggagagagg aaaaatttga ctttatctgg     660

gaaaagcaaa atgtacttaa gaataagaat acatggtcca ttcaactta tgttatagat       720

atgtcgttgg gtaaatcatc tggttgagtt tcaaagaatg gcccaatgtc ctctgtgctg     780

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ggcgaaaatg ggaaccatat tattttcggt ggaccttgga aataggggct agagagagca     900

aaaaggggg ggatcacggg ggaaccagat ggaaggcgaa cttaaaggcg ccggagacaa      960

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cctcgcggac taagagaaaa attcccgcgg gcgctctttg ggtgggccgg agaacgcccc     180

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cctgagagga tctactccac tgtctaccac tcattcctgc tgcattaacc ttcattgtta     600

acggattta atgaataata tagttatccc ggataccatg ctggcaggat ccactttgcg      660

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<212>   DNA
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tcgcccaccc acctgtggac cggcgaggtg agcgcggccc cacccccagc ccgcgtccgg    180

catcggagga ggtctccgga gcagagccga agctcgccgg agaagaggag ccccagcgcc    240

ccggtttgca aagcaggtga caaaacacga cagccttctt caagcccctc cagtattatc    300

cgacgcactt cctccctgga tactcttgct gcaccgtatc ttgctggaca ctggcctcgg    360

gatagccatg ggcaagctgc accttgcatg agggacaaag ctacacagac agagagtgca    420

tgggctgaag aatactctga aaagaagaaa gggtctcaca agcgctcanc atcgttgggc    480

agtacagatc aacttaatga gatagcaaaa ttacaccagc agttgcagag aagtaaacac    540

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atttaacaat gtcaggctgc tgttccaaaa                                     630


<210>   467
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<212>   DNA
<213>   Homo sapiens

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gaaactccgt ctcaaaacaa aaagaaaaag aaaggagcca tggagcccca ggtaggccag    180

ggctgatgga acggcccttg ctctaaggcc ttgcggcgtc actttctggg ctgtgacaga    240

aatggagaat ggctggaaga tcacagcacc gggatggcat ctgtacttgt tgggtagaca    300

cagggcgaac caagctctgg aaggtgccac catctagaag agctgcactc gcagattgag    360

acacatgcag ttaatttcta cagtagtgac cagaggaggg gcctggagtg ccccagctgg    420

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tctgt                                                                485
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<211>    1748
<212>    DNA
<213>    Homo sapiens


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<223>    n is a, c, g, t or u

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acgggcttcg ggagggccct ggggggacag ttccgagtca twwacctctt cactgcggtc    180

accctgagyg tcaccaccgt cctgaccctg gtcagcatcc ctgagaggcc gctgcggccg    240

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aagctggagg agttcctcag cgtccgcacc ctctacttca tcgcctatct cgccttcggc   1200

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tatcagagta agaagtttgc agggtccagt gcggacggca cccggcgggg catgggcgtg   1380

gacatctctc tgctgagctg ccagtacttc ctggctcaga ttctggtctc cctggtcctg   1440

gggcccctga cctcggccgt gggcagtgcc aacggggtga tgtacttctc cagcctcgtg   1500
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561

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tccttcctgg gctgcctgta ctcctccctg tttgtcattt atgaaattcc tcccagcgac   1560

gctgcagacg aggagcaccg gcccctcctg ctgaacgtct gacatcgcgg agcctcgact   1620

ccggagacgc gcctgcacct gggggtctgg agcaggccga ccagtgagga ccaaagggcc   1680

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acaagcgc                                                            1748
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<211>  2317
<212>  DNA
<213>  Homo sapiens
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aaggagccgg tcaccactcc gtgcggccac aacttctgcg ggtcgtgcct gaatgagacg   180

tgggcagtcc agggctcgcc atacctgtgc ccgcagtgcc gcgccgtcta ccaggcgcga   240

ccgcagctgc acaagaacac ggtgctgtgc aacgtggtgg agcagttcct gcaggccgac   300

ctggcccggg agccacccgc cgacgtctgg acgccgcccg cccgcgcctc tgcacccagc   360

ccgaatgccc aggtggcctg cgaccactgc ctgaaggagg ccgccgtgaa gacgtgcttg   420

gtgtgcatgg cctccttctg tcaggagcac ctgcagccgc acttcgacag ccccgccttc   480

caggaccacc gctgcagcc gcccgttcgc gacctgttgc gccgcaaatg ttcccagcac   540

aatcggctgc gggaattttt ctgccccgag cacagcgagt gcatctgcca catctgcctg   600

gtggagcata gacctgctc tcccgcgtcc ctgagccagg ccagcgccga cctggaggcc   660

accctgaggc acaaactaac tgtcatgtac agtcagatca cggggcgtc gagagcactg   720

gatgatgtga gaaacaggca gcaggatgtg cggatgactg caaacagaaa ggtggagcag   780

ctacaacaag aatacacgga aatgaaggct ctcttggacg cctcagagac cacctcgaca   840

aggaagataa aggaagagga gaagagggtc aacagcaagt ttgacaccat ttatcagatt   900

ctcctcaaga agaagagtga gatccagacc ttgaaggagg agattgaaca gagcctgacc   960

aagagggatg agttcgagtt tctggagaaa gcatcaaaac tgcgaggaat ctcaacaaag   1020

ccagtctaca tccccgaggt ggaactgaac cacaagctga taaaaggcat ccaccagagc   1080

accatagacc tcaaaaacga gctgaagcag tgcatcgggc ggctccagga gctcacccc   1140

agttcaggtg accctggaga gcatgaccca gcgtccacac acaaatccac acgccctgtg   1200

aagaaggtct ccaaagagga aagaaatcc aagaaacctc ccctgtccc tgccttaccc   1260

agcaagcttc ccacgtttgg agccccggaa cagttagtgg atttaaaaca agctggcttg   1320
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gaggctgcag ccaaagccac cagctcacat ccgaactcaa catctctcaa ggccaaggtg    1380

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aggctcggcc gcaacagcgc ctcctggtgc gtggagtggt caacaccaa gatctctgcc     1740

tggcacaata acgtggagaa aaccctgccc tccaccaagg ccacgcgggt gggcgtgctt     1800

ctcaactgtg accacggctt tgtcatcttc ttcgctgttg ccgacaaggt ccacctgatg     1860

tataagttca gggtggactt tactgaggct ttgtacccgg ctttctgggt attttctgct     1920

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cccccaagag gtccccaagg attgggagca tgggagggga gctggcggga gggtgggagg     2100

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cccctggtgc ctatcagggc agggtgacct actccccatt gttctggaaa tctccaggct     2220

gctgggcagc tgggcagagc tctgggaagt gaagtcatga gtgcccgatt cctcttagag     2280

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<212>  DNA
<213>  Homo sapiens


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<223>  n is a, c, g, t or u

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gtcccgagcc gcgagacagg attcagcagg ctcggcggac gacgaagcaa atgcacttcc    120

caaagcgatg agtctccagc aaaagccggg ggaacttttt cgcggcgctc gggatcctga    180

gcgtcctggg ctccgggcgt gtatgagagc gagcgagacg cgctcagaga gagtgactgt    240

g                                                                    241


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<211>  389
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563

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<212>  DNA
<213>  Homo sapiens

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ttcattttttt atccttttttc tgttatattt tatctaacaa ccttgatcca tgacaatgtg      180

aaaaaaaaag acaataagtt ttcttctatg tgacttacag caacatagca agtatgttac       240

gatattaaat attttatttt ctaacctttc aaaattaaga acttatgaat aaatgagatg       300

actctcagaa tatgaacaga aaagtctact tctgaacata aaaatgtaat cagaaacaat       360
                                                                       389
gtttccacag aataagatgt aaaggtatc


<210>  472
<211>  491
<212>  DNA
<213>  Homo sapiens


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<222>  (487)..(487)
<223>  n is a, c, g, t or u

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gcagtttctg gcctttggtg tcgctccccg ccccccagcc ccgcaaaatc ccggcttctt       180

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cgctggaaat ccgacgattt cgcgcgcgct ctgcttgcaa agtctttaag taaacacgct       360

caaatgaccg ccccgggcgg cccgaggcac gctctctccc cctccgcggg attagtaact       420

ttaggacttc gaccccgggg ctccgctttg cctgttaccc aggtcgggca gcgcgcgggc       480
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gcccggngcc g


<210>  473
<211>  557
<212>  DNA
<213>  Homo sapiens


<220>
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<223>  n is a, c, g, t or u
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gacatccatc taagacaaaa gcatatctct tttctgaggt ttcaccagag attgttataa    180

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aatttagaaa tagcaataaa aagagtatca gtgactcata gaagctaacc ttccatttaa    300

gatgtttcca ggtcagcagg aaccatcatg aaaagctcag cccgttcaat acctggctgg    360

gctggtacct gactatgcca gcaggggcaa cgcctcttcc ctccttagat ccaggttcca    420

gatgaacagg cagaactggc atccctcagt gccccaaggc tctgagtctc tgagagagga    480

caaagttgaa caggcgctnt ctctgaagat cactgcaatt caccgctgat tccgagtatt    540

                                                                     557
ctttctcatt cggngag
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<211>  2389
<212>  DNA
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ggccccggtc gcgtctgcct tggagaagaa gacaaagagc aagggccct acatctgcgc    600

tctgtgcgcc aaggagttca gaacggcta caatctccgg aggcacgaag ccatccacac    660

gggagccaag gccggccggg tcccctcggg tgctatgaag atgccgacca tggtgccccct    720

gagcctcctg agcgtgcccc agctgagcgg agccggcggg ggagggggag aggcgggtgc    780

cggcggcggc gctgccgcag tggccgccgg tggcgtggtg accacgaccg cctcggggaa    840
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cctgaaccga cacaagctgt cgcactcgga cgagaagccc taccagtgcc cggtgtgcca      960

gcagcgcttc aagcgcaagg accgcatgag ctaccacgtg cgctcacatg acggcgctgt     1020

gcacaagccc tacaactgct cccactgtgg caagagcttc tcccggccgg atcacctcaa     1080

cagtcacgtc agacaagtgc actcaacaga acggcccttc aaatgtgaga aatgtgaggc     1140

agctttcgcc acgaaggatc ggctgcgggc gcacacagta cgacacgagg agaaagtgcc     1200

atgtcacgtg tgtggcaaga tgctgagctc ggcttatatt tcggaccaca tgaaggtgca     1260

cagccagggt cctcaccatg tctgtgagct ctgcaacaaa ggtactggtg aggtttgtcc     1320

aatggcggcg gcagcggcag cggcggcagc ggcagcagcg gcagcagtag cagcccctcc     1380

cacagctgtg ggctccctct cgggggcgga ggggtgcct gtgagctctc agccacttcc     1440

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gaagcagggc cggcaaaggt tgtaccttca taaggtggta tcggggggtt ggggtcaggc     2040

cctgaacatc gtcctacttg agaatctgtc aggggaaaaa gtcaaggga gcaggaggaa     2100

gagccaggag ggccagaggc agagaagaga tggagtctta ggggccaggg tgagccaggg     2160

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gttgtggccc tggcatgtca tcgtgttcct gtgtcccctg catgtacccc accctccacc     2340

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<211>  6454
<212>  DNA
<213>  Homo sapiens

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tccactcagt gtccagggac ccctcccct ttgcccagag ctccaactgc tacaacagat     180

ccatcaagca agagccagta gacccgctga cccaggctga gcctgtgccc agagacgctg     240

gcaagatggg caagacacct ctgtccgagg tgtctcagaa tggaggaccc agtcaccttt     300

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agctgtggaa ccccatgaaa ggagaggagg gcaggattcc agccgcaggg gccagccagc     720

tggtcttcta ccagcacaag aacctcaacc agcccaacca cgggctggcc ctctgggaag     780

ccaagatgaa gcagctggcg gagagggcac gggcacggca ggaggaggct gcccggctgg     840

gcctgggcca gcaggaggcc aagctctacg ggaagaagcg caagtggggg ggcactgtgg     900

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tgcccacaga ctcggcggtc accgtgtcct cctatgccta cacgaaggtc actggccct      1020

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cggcttggag tcgaagggca gatgcacccc aggccagccc cacgagatgc tggcatagct    1800

ttccccagaa accaggttgg aagtagatgg cttcaagctt gctagtctcc acactgaatc    1860

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567

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ggagctggag tgcgaggttc ttaggggccg tgcccaccat gttgccaagc caatgcatgc     1980

tgagctgaag gaatttgtct tagtggcagt tttttaaaaa atgcccccaa agtctatgct     2040

gatactgaaa aagggctact gtatctttaa aaacaggaag ttgaacccaa gctgtgaaaa     2100

gccagtggtg ctctgtgcat ggtgctgtgc ggagcctggt gctgtagtgt tgtgctggga     2160

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tgtgacgttg tcgagagagg ttgggcctga tgggagcaac actcatcatc accaagtcaa     2580

actttgttgg agtgttggtt tttcttgtga tattagcaga aatgatctca tgctagccat     2640

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cacggtggat gaccaccaag ccctgagatg aacaggtatt tactgagcag ttgtattcag     2760

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<213>   Homo sapiens

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cccattaaca accacaaaaa aacctttgtc catgtttacc ccctggaaaa ggggggcagc      180

agggcacaag ggggctggac ccacccctat ttgaaaagga tatcgtaggg cccagcccgg      240

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gattggattt ctggcgcccc acccgacaga ctgaccctgt gtcccccttc cccattccag    180

ctcaaggcac ttaatattac aaaagaaggc agtgggctgg gctgggaaga gatggggcct    240

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591

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tggataagaa atccttacct ttaaaaaaag cttctagtct ccataacccc caaagtactg   4980

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gaatggggag gtataaaaag caaagattat tttttggcta ctaagccaag aacttacagg    6360

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gccaggagtt cgagaacagt ctggccaaca tggcgaaacc tcatctctac taaaattaca    6660

aaaattagcc gggcatggtg gcacatgcct gtaatcccag ctacgtcagg aggctgaggc    6720

acaggaattg cttgaaccca agaggcagag gatgcaatga gccaagatca caccactgca    6780

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<213>    Homo sapiens


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tttctatgga tcttgggagt tttcttgttg ctcctgtgtt gcccagcttt aataaaacca    180

ggcgcaaaca aaaccatag cattctgaaa caataggggg cccacatgga cccagtatgt     240

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cacacatttt atgccatata atggtgtgtt ttcttaattt gtttcttgtg gcgaaatgtg     360

gctttcaaat taaaatgacc ttttcttctt tgaaactttt cgttttgact tgtataatta    420

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catgggtctg gtttcagaaa natggctctc atctttcctg ggaaccttat tttgcttaat     720

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ttgctgatat ggtcctgtgg ttatgtgcac tctttccttg agagtccaaa caaaaaaaaa      840

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<213>   Homo sapiens

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ataaagccgc cagctcgaag caactggcgc tacatcacaa taggaggctg cgcagcctgg      180

atgctcgaga ggccagcccg gcagcgtggg gaggaggtct cttcctcgtg agctacatga      240

agcttccctc cacctgcctc ggggacaaaa ggaatgtccc ctgcccccag tgcaactctg      300

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gtccacagtg cacattccag agaaatagtg agacagacat gcgacatgag gagcctctca      420

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aatcttgtct tttgacaata ccaaagaaat aggggggtagc tagagtaaag aacctagggc     180

ctggacctgg gctggacagt gtatcccttt aggkgtggga actgggtatt tccctggggt      240

ckgtatgcct ttgtcttgtc atttgctttt agggcagatg acacttttttc ccacccttttt    300

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kgatataata ttkaaragac agaacaagaa agcatgtagc cctaakgaka ggrgattatc      420

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tgatccaagg gtttgtattt ttttttttaa gtttgttcat atttgtatgt acatgactat      660

ttaaagccag gggattatct ttctataaat gtataactgg caacctgtat cttccctctt      720
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tgttgcccat atagccggag cccttttct catttgagaa tctcttccct actaagtgtt     780

aagcttagag tgaagggcac tcctactgga ccaaaggaga ggggattgga gaattgtttt     840

aagtttata cattaggtca gtattccatc ttcccacccc cagc                       884
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<211>  529
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<213>  Homo sapiens

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gaggaagcaa aggctccaga gctccagctg ggcgggaaac ggagcaggtg gggctagggg     180

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aatccccaga gccagcgtga gaagtagact tgagcctgtt ctcttccctt gaacttttct     420

tttacacgag tacaacaaaa aacaagaaca gagacaagtc gtagtgttgc tagtgataag     480

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tacacatttc atgagccagc agtggacttg agttacaatg tgtaggttcc ttgtggttat     300

agctgcagaa gaagccatca aattcttgag gacttgacat ctctcggaaa gaagcaaact     360

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<211>  2641
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<213>  Homo sapiens

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595

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aacaggagaa atcaatggtt ctgccaatta tgagatgttt atatttcaca acggaggtgt    180

acaaatttta tgcaaatatc ctgacattgt ccagcaattt aaaatgcagt tgctgaaagg    240

ggggcaaata ctctgcgatc tcactaagac aaaaggaagt ggaaacacag tgtccattaa    300

gagtctgaaa ttctgccatt ctcagttatc caacaacagt gtctcttttt ttctatacaa    360

cttggaccat tctcatgcca actattactt ctgcaaccta tcaatttttg atcctcctcc    420

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tcatactacc tcttctttct gtagggatga gaattcctct tttaatcagt caagggagat   1140

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gcctatattc tccctacaag aatatttttg ctccagaaag acatgttctt ttctcaaatt   1500

cagttaaaat ggtttacttt gttcaagtta gtggtaggaa acattgcccg gaattgaaag   1560

caaatttatt ttattatcct attttctacc attatctatg ttttcatggt gctattaatt   1620

acaagtttag ttctttttgt agatcatatt aaaattgcaa acaaaatcat ctttaatggg   1680

ccagcattct catggggtag agcagaatat tcatttagcc tgaaagctgc agttactata   1740

ggttgctgtc agactatacc catggtgcct ctgggcttga caggtcaaaa tggtccccat   1800

cagcctggag cagccctcca gacctgggtg gaattccagg gttgagagac tcccctgagc   1860
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cagaggccac taggtattct tgctcccaga ggctgaagtc accctgggaa tcacagtggt    1920

ctacctgcat tcataattcc aggatctgtg aagagcacat atgtgtcagg gcacaattcc    1980

ctctcataaa aaccacacag cctggaaatt ggccctggcc cttcaagata gccttcttta    2040

gaatatgatt tggctagaaa gattcttaaa tatgtggaat atgattattc ttagctggaa    2100

tattttctct acttcctgtc tgcatgccca aggcttctga agcagccaat gtcgatgcaa    2160

caacatttgt aactttaggt aaactgggat tatgttgtag tttaacattt tgtaactgtg    2220

tgcttatagt ttacaagtga gacccgatat gtcattatgc atacttatat tatcttaagc    2280

atgtgtaatg ctggatgtgt acagtacagt actgaacttg taatttgaat ctagtatggt    2340

gttctgtttt cagctgactt ggacaacctg actggctttg cacaggtgtt ccctgagttg    2400

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tggcctggtt gtccaagctg tgcctcgaca catcctcatc cccagcatgg gacacctcaa    2520

gatgaataat aattcacaaa atttctgtga aatcaaatcc agttttaaga ggagccactt    2580

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g                                                                     2641
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<213>  Homo sapiens

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gggttggagg aattaaacag aatggaggtt cgttggggtg ataaaggatc tactgaggaa    180

ggtgcaaggc tagagaaagc caaaaatgct gtggtgaaga ttcctgaaga aacagaggaa    240

cccatcaagc ctagaccacc tcgacccaga cccacacacc agtctcctca gacaaaatgg    300

tacaccccaa ttaaaggtcg tcttgatgct ctctgggctt tgttgacgcg gcagtatgac    360

cgggtttctt tgatgcgacc tcaggaagga gatgagggcc ggtgcataaa cttatcccga    420

gttccatctc agttgatgtt catccaaatg aacgacatca agtgcatttc agaagctttt    480

ggagagcagc ttaattgctc tcactcggga aatgttttct ctgccttatg ctatgcttgc    540

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ccctggccac tgaactgcgc tgccagtgct tgcagaccct gcagggaatt cacctcaaga   240

acatccaaag tgtgaaggtg aagtcccccg acccccactg cgcccaaacc gaagtcatag   300

ccacactcaa gaatgggcag aaagcttgtc tcaaccccgc atcgcccatg gttaagaaaa   360

tcatcgaaaa gatgctgaaa aatggcaaat ccaactgacc agaaggaagg aggaagctta   420

ttggtggctg ttcctgaagg aggccctgcc ttacaggaac agaagaggaa agagagacac   480

agctgcagag gccacctggc ttgcgcctaa tgtgtttgag catacttagg agaagtcttc   540

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tgtaaaataa ggttatgatt gaatctactt gcacactctc ccattatatt tattgtttat   660

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agaacaggaa aataaaatat ttaaaaatat   1110

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ccagaaggaa gaattaaaaa tgaatatgtt caaggaagca gtgaccttca aggacgtggc   180

tgtggccttc acggaggagg aattggggct gctgggccct gcccagagga agctgtaccg   240

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agatgtatca cctatagaaa gaaatgagca gctttggata atgacgacag caacccgaag   360

acagggaaat ttagatacct tacctgtaaa agctcttttg ctctatgacc tggctcaaac   420

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ttaaacttgg atttgaagtt agaagaaatg ttggaagtca tttatatatg aagaaatgtt      480

ggaaggactc atatatgcat acattccttg agtgactatg aatgactgcc gggcagtaac      540

ttctgggctg tggttgtaaa ctgtgagcac tacaaaatgt ttttccttat tgataccata      600

ttatggtagg aaagacatgg aataaaaaat ttagatagta tgtcagtagt tgtgttttta      660

aatgggtttc attagtgctt agcaattggg agcttggtgg accatctctt ggttttggac      720

catctcttgg tttctgtcag tatgtaaacc agaaacttca aatgtgtcac aaaagatgag      780

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<212>  DNA
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caggcctgct gtgcactcct gtggcatcgg ggggcggggg gcaagcatca cagtcatagg      180

gagtgtgagg cgcccagaat gggggctcca cagtcaggcc tgcacccgg ctgcaggata       240

ccagatcctg tggttcactg tgagacctcc gcctctctcg tctgccttac gctgcccct       300

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<213>  Homo sapiens


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tgccctcgag ggccagtctg tggcatgaca agaaatgcag gggtgcacgt gttggggctg      180

ccctttggca ctcactgggg tgggtcaggg gagagcaaac accaaggttc tctggagacc      240
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ggaaccagcc agtgcagcca tttggcttct ccctcaggac cagctgtcag tccccaggcc    300

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g                                                                    601
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atgatggtga tggcggatgg gtagatacat atcacaacac aggtattaca ggaataacgg    480

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atgagcaacg gcagcccttta acagttgagc acatgtatga agacatcagt caggatcatg    840

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630

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677

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680

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682

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aatttctgag ctttatgatc tgtggaaatt tggaatgaaa tcgaattcat tttgtacata    5160

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acagctatta aaatgactaa tattgctaaa atgaaggcta ctaaatttcc ccaagaattt    240

cggtggaatg cccaaaaatg gtgttaagat atgcagaagg gcccatttca agcaaagcaa    300

tctctccacc ccttcataaa agatttaagc taaaaaaaaa aaaaaagaa gaaatccaa    360

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acagctatta aaatgactaa tattgctaaa atgaaggcta ctaaatttcc ccaagaattt     240

cggtggaatg cccaaaaatg gtgttaagat atgcagaagg gcccatttca agcaaagcaa     300

tctctccacc ccttcataaa agatttaagc taaaaaaaaa aaaaaagaa gaaaatccaa      360

cagctgaaga cattgggcta tttataaatc ttctcccagt cccccagaca gcctcacatg     420

ggggctgtaa acagctaact aaaatatctt tgagactctt atgtccacac ccactgacac     480

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agtcattcca aatatgagat gcattgttac aggaagtccc ttgccatcct aaaagcaccc   180

cacttctctc taaggagaat ggcccagtcc tctcccaagt ccacacaggg gagggatagc   240

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attttgtttt attttgaatg atgagccttc gtgccccccc ttccccttt tttcccccaa   360

cttgagatgt atgaaggctt ttggtctccc tgggagtggg tggaggcagc cgggcttacc   420

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acgagagtgc tggggaataa aaagggggatc ttcactcggc agagacaacc aaaaagtgca   180

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aagaaaacca tgaaacgcta ctaactacag gaagcaaact aagcccccgc tgtaatgaaa   180

caccttctct ggagccaagt ccagatttac actgggagag gtgccagcaa ctgaataaat   240

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